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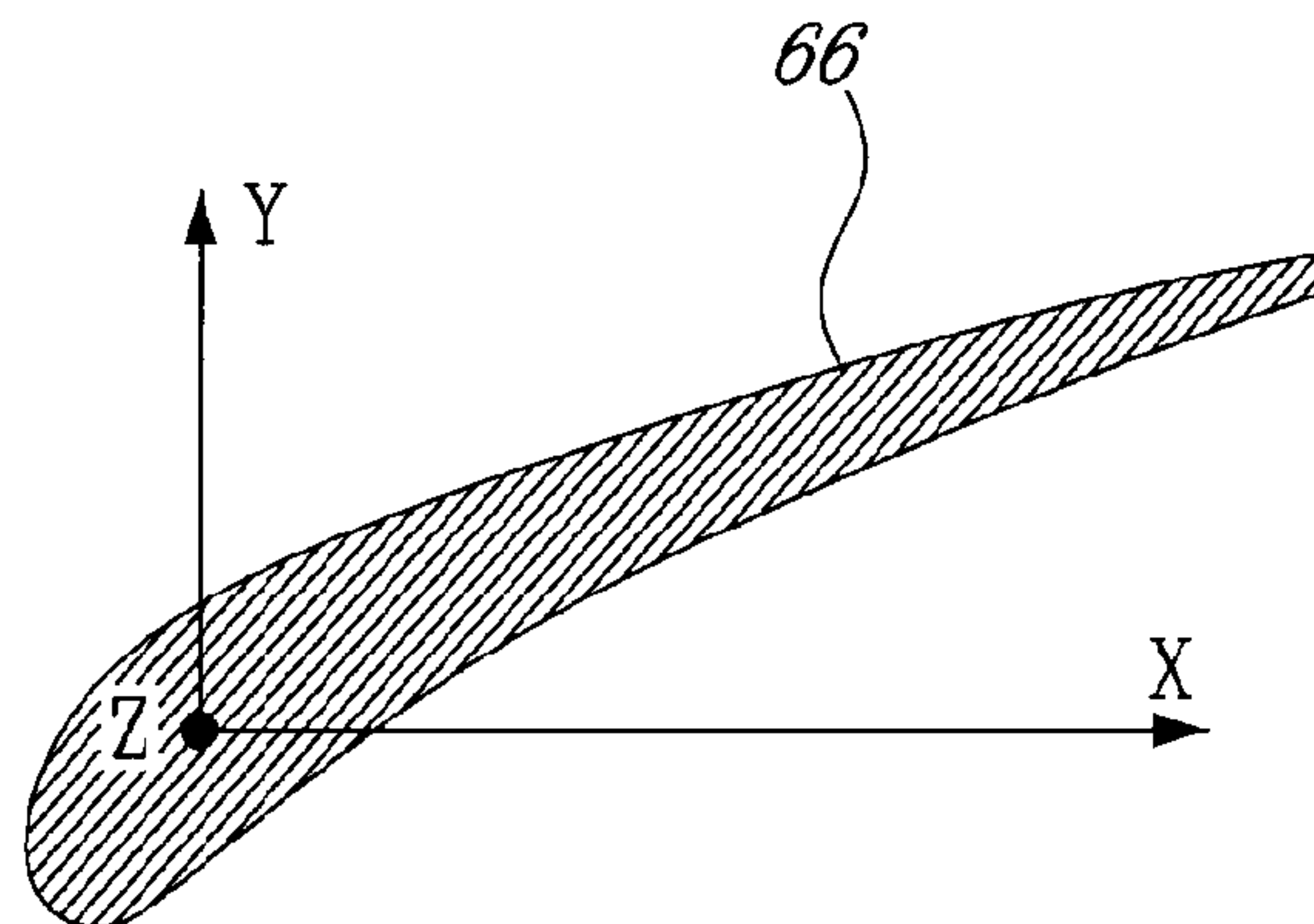
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(54) **Titre :** PROFIL AERODYNAMIQUE D'AUBE FIXE DE TURBINE HAUTE PRESSION

(54) **Title:** HP TURBINE VANE AIRFOIL PROFILE



(57) **Abrégé/Abstract:**

A high pressure turbine vane includes an airfoil having a profile substantially in accordance with at least an intermediate portion of the Cartesian coordinate values of X, Y and Z set forth in Table 2. The X and Y values are distances, which when smoothly connected by an appropriate continuing curve, define airfoil profile sections at each distance Z. The profile sections at each distance Z are joined smoothly to one another to form a complete airfoil shape. The design allows to equalize the static pressure gradient in the spanwise direction. The vane is also configured to improve work on the downstream blades.

ABSTRACT

A high pressure turbine vane includes an airfoil having a profile substantially in accordance with at least an intermediate portion of the Cartesian coordinate values of X, Y and Z set forth in Table 2. The X and Y values are distances, which when smoothly connected by an appropriate continuing curve, define airfoil profile sections at each distance Z. The profile sections at each distance Z are joined smoothly to one another to form a complete airfoil shape. The design allows to equalize the static pressure gradient in the spanwise direction. The vane is also configured to improve work on the downstream blades.

HP TURBINE VANE AIRFOIL PROFILE

TECHNICAL FIELD

5 The invention relates generally to a vane airfoil for a gas turbine engine and, more particularly, to an airfoil profile suited for a single stage high pressure compressor turbine (HPT) vane of a large auxiliary power unit (APU).

BACKGROUND OF THE ART

 Where a vane airfoil is part of a single stage turbine driving a compressor
10 (i.e. part of a high pressure or HP turbine), the requirements for such a vane airfoil design are significantly more stringent than multiple stage airfoil designs, as the compressor relies solely on this single stage HP turbine to deliver all the required work, as opposed to work being spread over several turbine stages. Over and above this, the airfoil is subject to flow regimes which lend themselves easily to flow
15 separation, which tend to limit the amount of work transferred to the compressor, and hence the total thrust or power capability of the engine. The HP turbine is also subject to harsh temperatures and pressures, which require a solid balance between aerodynamic and structural optimization. Therefore, improvements in airfoil design are sought.

20 SUMMARY OF THE INVENTION

 It is an object of this invention to provide an improved airfoil suited for use in a single stage high pressure turbine vane assembly.

 The present invention equalizes the static pressure gradient in the spanwise direction, to minimize secondary losses and to beneficially align the flow
25 entering the HT blade stage. According to another general aspect, the radial distribution of aerofoil sectional throats is optimized to improve work on the downstream compressor turbine blades. The design also provides for an optimized gaspath and aerofoil convergence ratio to reduce secondary losses.

 In one aspect, the present invention provides a turbine vane for a gas
30 turbine engine comprising an airfoil having an intermediate portion defined by a

nominal profile substantially in accordance with Cartesian coordinate values of X, Y, and Z of Sections 5 to 10 set forth in Table 2, wherein the point of origin of the orthogonally related axes X, Y and Z is located at an intersection of a centerline of the gas turbine engine and a stacking line of the turbine vane, the Z values are radial
5 distances measured along the stacking line, the X and Y are coordinate values defining the profile at each distance Z.

In another aspect, the present invention provides a turbine vane for a gas turbine engine, the turbine vane having an uncoated intermediate airfoil portion defined by a nominal profile substantially in accordance with Cartesian coordinate
10 values of X, Y, and Z of Sections 5 to 10 set forth in Table 2, wherein the point of origin of the orthogonally related axes X, Y and Z is located at an intersection of a centerline of the gas turbine engine and a stacking line of the turbine vane, the Z values are radial distances measured along the stacking line, the X and Y are coordinate values defining the profile at each distance Z, and wherein the X and Y
15 values are scalable as a function of the same constant or number.

In another aspect, the present invention a turbine stator assembly for a gas turbine engine comprising a plurality of vanes, each vanes including an airfoil having an intermediate portion defined by a nominal profile substantially in accordance with Cartesian coordinate values of X, Y, and Z of Sections 5 to 10 set forth in Table 2,
20 wherein the point of origin of the orthogonally related axes X, Y and Z is located at an intersection of a centerline of the gas turbine engine and a stacking line of the turbine vane, the Z values are radial distances measured along the stacking line, the X and Y are coordinate values defining the profile at each distance Z.

In another aspect, the present invention provides a high pressure turbine
25 vane comprising at least one airfoil having a surface lying substantially on the points of Table 2, the airfoil extending between platforms defined generally by Table 1, wherein a fillet radius is applied around the airfoil between the airfoil and platforms, and wherein the values of Table 2 are subject to relevant tolerance.

Further details of these and other aspects of the present invention will be
30 apparent from the detailed description and figures included below.

DESCRIPTION OF THE DRAWINGS

Reference is now made to the accompanying figures depicting aspects of the present invention, in which:

Figure 1 is a schematic view of a gas turbine engine;

5 Figure 2 is a schematic view of a gaspath of the gas turbine engine of Fig. 1, including a high pressure turbine stage;

Figure 3 is a schematic elevation view of a HPT stage vane having a vane profile defined in accordance with an embodiment of the present invention; and

10 Figure 4 is a cross sectional view taken along lines 4-4 of Fig. 3, showing a representative profile section of the airfoil portion of the vane.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Figure 1 illustrates a gas turbine engine 10 of a type preferably provided for use as a APU, generally comprising in serial flow communication a fan 12 through which ambient air is propelled, a multistage compressor 14 for pressurizing the air, a combustor 16 in which the compressed air is mixed with fuel and ignited for generating an annular stream of hot combustion gases, and a turbine section 18 for extracting energy from the combustion gases to drive the fan, the compressor, and produce thrust.

20 The gas turbine engine 10 further includes a turbine exhaust duct 20 which is exemplified as including an annular core portion 22 and an annular outer portion 24 and a plurality of struts 26 circumferentially spaced apart, and radially extending between the inner and outer portions 22, 24.

25 Figure 2 illustrates a portion of an annular hot gaspath, indicated by arrows 27 and defined by annular inner and outer walls 28 and 30 respectively, for directing the stream of hot combustion gases axially in an annular flow. The profile of the inner and outer walls 28 and 30 of the annular gaspath, "cold" (i.e. non-operating) conditions, is defined by the Cartesian coordinate values given in Table 1 below. More particularly, the inner and outer gaspath walls 28 and 30 are defined with respect to mutually orthogonal x and z axes, as shown in Fig. 2. The x axis

corresponds to the engine turbine rotor centerline 29. The radial distance of the inner and outer walls 28 and 30 from the engine turbine rotor centerline and, thus, from the x-axis at specific axial locations is measured along the z axis. The z values provide the inner and outer radius of the gas path at various axial locations therealong. The x and z coordinate values in Table 1 are distances given in inches from the point of origin O (see Fig. 2). It is understood that other units of dimensions may be used. The x and z values have a manufacturing tolerance of $\pm 0.015''$ between the leading and trailing edges of the high pressure turbine vanes.

The turbine section 18 has a high pressure turbine (HPT) stage located downstream of the combustor 16 and a low pressure turbine (LPT) stage further downstream. The turbine exhaust duct 20 is shown downstream from the LPT stage. The HP turbine has a single stage.

Referring to Figure 2, the HPT stage is preferably transonic and comprises a stator assembly 32 and a rotor assembly 36 having a plurality of circumferentially arranged vane 40a and blades 42a respectively. Likewise, the LPT stage comprises a stator assembly 34 and a rotor assembly 38 having a plurality of circumferentially spaced vanes 40b and blades 42b. The vanes 40a,b and blades 42a,b are mounted in position along respective stacking lines 44-50, as identified in Figure 2. The stacking lines 44-50 extend in the radial direction along the z axis at different axial locations. The stacking lines 44-50 define the axial location where the blades and vanes of each stage are mounted in the engine 10. More specifically, stacking line 44 located at $x = 0$ corresponds to the HPT vane 40a. Stacking line 46 located at $x = 1.7950$ corresponds to the HPT blade 42a. Stacking line 48 located at $x = 4.5460$ corresponds to the LPT vane 40b. Stacking line 50 located at $x = 5.9910$ corresponds to the LPT blade 42b. Furthermore, Figure 2 also illustrates stacking line 52 and 53 corresponding respectively to the thin and the thick exhaust duct struts 26a, 26b. Stacking lines 52 and 53 are respectively located at $x = 11.5305$ and $x = 11.5395$.

Table 1
Turbine Cold Gaspath Definition

PL	INNER GASPETH		OUTER GASPETH	
	X	Z	X	Z
1	-1.200	4.376	-1.200	5.760
2	-0.800	4.394	-0.800	5.785
3	-0.400	4.439	-0.400	5.796
4	0.000	4.524	0.000	5.806
5	0.400	4.608	0.400	5.816
6	0.800	4.671	0.800	5.840
7	1.200	4.706	1.200	5.893
8	1.600	4.713	1.600	5.984
9	2.000	4.634	2.000	5.984
10	2.325	4.593	2.325	5.984
11	2.800	4.566	2.800	6.041
12	3.200	4.554	3.200	6.089
13	3.600	4.540	3.600	6.140
14	4.000	4.524	4.000	6.199
15	4.400	4.485	4.400	6.268
16	4.546	4.464	4.546	6.296
17	4.800	4.419	4.800	6.347
18	5.200	4.347	5.200	6.428
19	5.750	4.242	5.750	6.606
20	5.991	4.223	5.991	6.663
21	6.350	4.164	6.350	6.749
22	6.800	3.975	6.800	6.944
23	7.200	3.975	7.200	6.970
24	7.600	3.975	7.600	6.970
25	8.000	3.975	8.000	6.970
26	8.400	3.975	8.400	6.970
27	8.800	3.975	8.800	6.970
28	9.200	3.933	9.200	6.989
29	9.600	3.925	9.600	7.008
30	10.000	3.925	10.000	7.028
31	10.400	3.925	10.400	7.208
32	10.800	3.925	10.800	7.166
33	11.200	3.928	11.200	7.133
34	11.539	3.933	11.539	7.181
35	12.000	3.946	12.000	7.254
36	12.400	3.962	12.400	7.317
37	12.800	3.982	12.800	7.376
38	13.200	4.006	13.200	7.427
39	13.600	4.035	13.600	7.472
40	14.000	4.069	14.000	7.510
41	14.400	4.107	14.400	7.541
42	14.800	4.083	14.800	7.569
43	15.200	4.149	15.200	7.618

44	16.000	4.250		16.000	7.690
45	16.400	4.281		16.400	7.711
46	16.800	4.309		16.800	7.732
47	17.200	4.334		17.200	7.753
48	17.600	4.355		17.600	7.774
49	18.000	4.374		18.000	7.795

More specifically, the stator assemblies 32, 34 each include the plurality of circumferentially distributed vanes 40a and 40b respectively which extend radially across the hot gaspath 27. The HPT stator assembly 32 comprises 14 vanes 40a that are uniformly circumferentially distributed. Figure 3 shows an example of a vane 40a of the HPT stage. It can be seen that each vane 40a has an airfoil 54 having a leading edge 56 and a trailing edge 58, extending between inner vane platform 60 and outer vane platform 62. The HPT includes 14 HP vanes and 65 HP blades, the LPT include 38 LP vanes and 59 LP blades, and there are 5 thin and 3 thick airfoils in the turbine exhaust case.

The novel airfoil shape of each HPT stage vane 40a is defined by a set of X-Y-Z points in space from its respective stacking line 44. This set of points represents a novel and unique solution to the target design criteria discussed above, and are well-adapted for use in a single-stage HPT design. The set of points are defined in a Cartesian coordinate system which has mutually orthogonal X, Y and Z axes. The X axis extends axially along the turbine rotor centerline 29, i.e., the rotary axis. The positive X direction is axially towards the aft of the turbine engine 10. The Z axis extends along the HPT vane stacking line 44 of each respective vane 40a in a generally radial direction and intersects the X axis. The positive Z direction is radially outwardly toward the outer vane platform 62. The Y axis extends tangentially with the positive Y direction being in the direction of rotation of the rotor assembly 36. Therefore, the origin of the X, Y and Z axes is defined at the point of intersection of all three orthogonally-related axes: that is the point (0,0,0) at the intersection of the center of rotation of the turbine engine 10 and the stacking line 44.

In a particular embodiment of the HPT stage, the set of points which define the HPT stage vane airfoil profile relative to the axis of rotation of the turbine engine 10 and stacking line 44 thereof are set out in Table 2 below as X, Y and Z

Cartesian coordinate values. Particularly, the vane airfoil profile is defined by profile sections 66 at various locations along its height, the locations represented by Z values. It should be understood that the Z values do not represent an actual radial height along the airfoil 54 but are defined with respect to the engine center line. For example, if the vanes 40a are mounted about the stator assembly 32 at an angle with respect to the radial direction, then the Z values are not a true representation of the height of the airfoils of the vanes 40a. Furthermore, it is to be appreciated that, with respect to Table 2, Z values are not actually radial heights, per se, from the centerline but rather a height from a plane through the centerline - i.e. the sections in Table 2 are planar. The coordinate values are set forth in inches in Table 2 although other units of dimensions may be used when the values are appropriately converted.

Thus, at each Z distance, the X and Y coordinate values of the desired profile section 66 are defined at selected locations in a Z direction normal to the X, Y plane. The X and Y coordinates are given in distance dimensions, e.g., units of inches, and are joined smoothly, using appropriate curve-fitting techniques, at each Z location to form a smooth continuous airfoil cross-section. The vane airfoil profiles of the various surface locations between the distances Z are determined by smoothly connecting the adjacent profile sections 66 to one another to form the airfoil profile.

The coordinate values listed in Table 2 below represent the desired airfoil profiles in a "cold" (i.e. non-operating) condition. However, the manufactured airfoil surface profile, will be slightly different, as a result of manufacturing and applied coating tolerances. The coordinate values listed in Table 2 below are for an uncoated airfoil. According to an embodiment of the present invention, the finished HPT vane is coated with a thermal protecting layer.

The Table 2 values are generated and shown to three decimal places for determining the profile of the HPT stage vane airfoil. However, as mentioned above, there are manufacturing tolerance issues to be addressed and, accordingly, the values for the profile given in Table 2 are for a theoretical airfoil, to which a ± 0.003 inches manufacturing tolerance is additive to the X and Y values given in Table 2 below. Furthermore a 0.001-0.002 inch thickness of coating is typically applied to the HPT vane defined in Table 2. The HPT stage vane airfoil design functions well within

these ranges of variation. The cold or room temperature profile is given by the X, Y and Z coordinates for manufacturing purposes. It is understood that the airfoil may deform, within acceptable limits, once entering service.

5 The coordinate values given in Table 2 below provide the preferred nominal HPT stage vane airfoil profile.

Table 2

	X	Y	Z
SECTION 1			
	-0.759	-0.843	4.224
	-0.753	-0.846	4.224
	-0.746	-0.849	4.224
	-0.739	-0.852	4.224
	-0.733	-0.854	4.224
	-0.726	-0.856	4.224
	-0.719	-0.858	4.224
	-0.712	-0.860	4.224
	-0.705	-0.862	4.224
	-0.698	-0.864	4.224
	-0.691	-0.865	4.224
	-0.655	-0.870	4.224
	-0.620	-0.871	4.224
	-0.584	-0.869	4.224
	-0.548	-0.863	4.224
	-0.513	-0.855	4.224
	-0.479	-0.843	4.224
	-0.446	-0.830	4.224
	-0.414	-0.814	4.224
	-0.383	-0.796	4.224
	-0.353	-0.776	4.224
	-0.324	-0.755	4.224
	-0.296	-0.732	4.224
	-0.269	-0.708	4.224
	-0.244	-0.682	4.224
	-0.219	-0.656	4.224
	-0.195	-0.629	4.224
	-0.172	-0.602	4.224
	-0.150	-0.574	4.224
	-0.128	-0.545	4.224
	-0.107	-0.516	4.224
	-0.087	-0.486	4.224
	-0.067	-0.457	4.224
	-0.047	-0.427	4.224
	-0.027	-0.397	4.224
	-0.008	-0.366	4.224

Table 2

	X	Y	Z
	0.012	-0.336	4.224
	0.031	-0.306	4.224
	0.050	-0.275	4.224
	0.069	-0.245	4.224
	0.088	-0.214	4.224
	0.107	-0.184	4.224
	0.126	-0.153	4.224
	0.145	-0.123	4.224
	0.164	-0.092	4.224
	0.183	-0.062	4.224
	0.202	-0.031	4.224
	0.220	0.000	4.224
	0.239	0.030	4.224
	0.258	0.061	4.224
	0.276	0.092	4.224
	0.295	0.122	4.224
	0.314	0.153	4.224
	0.332	0.184	4.224
	0.351	0.215	4.224
	0.370	0.245	4.224
	0.388	0.276	4.224
	0.407	0.307	4.224
	0.425	0.338	4.224
	0.444	0.369	4.224
	0.462	0.399	4.224
	0.480	0.430	4.224
	0.499	0.461	4.224
	0.517	0.492	4.224
	0.535	0.523	4.224
	0.553	0.554	4.224
	0.571	0.585	4.224
	0.589	0.617	4.224
	0.607	0.648	4.224
	0.624	0.679	4.224
	0.642	0.711	4.224
	0.659	0.742	4.224
	0.676	0.774	4.224
	0.693	0.805	4.224
	0.710	0.837	4.224
	0.726	0.869	4.224
	0.743	0.901	4.224
	0.759	0.933	4.224
	0.775	0.965	4.224
	0.790	0.998	4.224
	0.806	1.030	4.224
	0.821	1.063	4.224
	0.836	1.096	4.224
	0.850	1.128	4.224

Table 2

	X	Y	Z
	0.865	1.161	4.224
	0.879	1.194	4.224
	0.893	1.228	4.224
	0.906	1.261	4.224
	0.920	1.294	4.224
	0.933	1.328	4.224
	0.935	1.334	4.224
	0.938	1.341	4.224
	0.940	1.348	4.224
	0.943	1.355	4.224
	0.945	1.361	4.224
	0.948	1.368	4.224
	0.950	1.375	4.224
	0.953	1.382	4.224
	0.955	1.388	4.224
	0.958	1.395	4.224
	0.959	1.401	4.224
	0.960	1.408	4.224
	0.960	1.414	4.224
	0.959	1.420	4.224
	0.957	1.426	4.224
	0.953	1.432	4.224
	0.950	1.437	4.224
	0.945	1.441	4.224
	0.939	1.445	4.224
	0.934	1.447	4.224
	0.927	1.448	4.224
	0.921	1.449	4.224
	0.915	1.448	4.224
	0.908	1.447	4.224
	0.903	1.444	4.224
	0.897	1.441	4.224
	0.892	1.436	4.224
	0.888	1.431	4.224
	0.885	1.426	4.224
	0.882	1.420	4.224
	0.879	1.415	4.224
	0.876	1.409	4.224
	0.873	1.403	4.224
	0.870	1.398	4.224
	0.867	1.392	4.224
	0.864	1.386	4.224
	0.861	1.381	4.224
	0.858	1.375	4.224
	0.855	1.370	4.224
	0.840	1.342	4.224
	0.824	1.314	4.224
	0.808	1.286	4.224

Table 2

	X	Y	Z
	0.792	1.259	4.224
	0.775	1.231	4.224
	0.758	1.204	4.224
	0.741	1.177	4.224
	0.724	1.150	4.224
	0.707	1.123	4.224
	0.689	1.097	4.224
	0.671	1.070	4.224
	0.654	1.044	4.224
	0.636	1.017	4.224
	0.617	0.991	4.224
	0.599	0.965	4.224
	0.581	0.938	4.224
	0.562	0.912	4.224
	0.544	0.886	4.224
	0.525	0.860	4.224
	0.507	0.834	4.224
	0.488	0.809	4.224
	0.469	0.783	4.224
	0.450	0.757	4.224
	0.431	0.731	4.224
	0.412	0.705	4.224
	0.393	0.680	4.224
	0.375	0.654	4.224
	0.356	0.628	4.224
	0.337	0.602	4.224
	0.317	0.577	4.224
	0.298	0.551	4.224
	0.279	0.526	4.224
	0.260	0.500	4.224
	0.241	0.474	4.224
	0.222	0.449	4.224
	0.203	0.423	4.224
	0.183	0.398	4.224
	0.164	0.372	4.224
	0.145	0.347	4.224
	0.125	0.322	4.224
	0.106	0.296	4.224
	0.086	0.271	4.224
	0.066	0.246	4.224
	0.046	0.221	4.224
	0.027	0.196	4.224
	0.006	0.171	4.224
	-0.014	0.146	4.224
	-0.034	0.122	4.224
	-0.055	0.097	4.224
	-0.076	0.073	4.224
	-0.096	0.049	4.224

Table 2

	X	Y	Z
	-0.118	0.025	4.224
	-0.139	0.001	4.224
	-0.161	-0.022	4.224
	-0.183	-0.046	4.224
	-0.205	-0.069	4.224
	-0.227	-0.092	4.224
	-0.249	-0.114	4.224
	-0.272	-0.137	4.224
	-0.295	-0.159	4.224
	-0.318	-0.181	4.224
	-0.341	-0.203	4.224
	-0.365	-0.225	4.224
	-0.389	-0.246	4.224
	-0.412	-0.267	4.224
	-0.436	-0.288	4.224
	-0.460	-0.309	4.224
	-0.485	-0.330	4.224
	-0.509	-0.351	4.224
	-0.533	-0.372	4.224
	-0.557	-0.393	4.224
	-0.582	-0.414	4.224
	-0.606	-0.434	4.224
	-0.630	-0.455	4.224
	-0.654	-0.476	4.224
	-0.678	-0.498	4.224
	-0.702	-0.519	4.224
	-0.725	-0.541	4.224
	-0.748	-0.563	4.224
	-0.753	-0.567	4.224
	-0.757	-0.572	4.224
	-0.762	-0.576	4.224
	-0.766	-0.581	4.224
	-0.771	-0.586	4.224
	-0.775	-0.590	4.224
	-0.780	-0.595	4.224
	-0.784	-0.599	4.224
	-0.789	-0.604	4.224
	-0.793	-0.608	4.224
	-0.803	-0.619	4.224
	-0.811	-0.631	4.224
	-0.819	-0.644	4.224
	-0.826	-0.657	4.224
	-0.831	-0.671	4.224
	-0.835	-0.685	4.224
	-0.837	-0.699	4.224
	-0.838	-0.714	4.224
	-0.838	-0.728	4.224
	-0.837	-0.743	4.224

Table 2

	X	Y	Z
	-0.833	-0.757	4.224
	-0.829	-0.771	4.224
	-0.822	-0.784	4.224
	-0.815	-0.797	4.224
	-0.806	-0.809	4.224
	-0.796	-0.819	4.224
	-0.785	-0.829	4.224
	-0.772	-0.837	4.224
SECTION 2			
	-0.771	-0.853	4.374
	-0.764	-0.856	4.374
	-0.758	-0.858	4.374
	-0.751	-0.861	4.374
	-0.744	-0.863	4.374
	-0.737	-0.866	4.374
	-0.730	-0.868	4.374
	-0.723	-0.870	4.374
	-0.716	-0.872	4.374
	-0.709	-0.873	4.374
	-0.702	-0.875	4.374
	-0.666	-0.880	4.374
	-0.629	-0.881	4.374
	-0.593	-0.878	4.374
	-0.557	-0.873	4.374
	-0.521	-0.864	4.374
	-0.487	-0.853	4.374
	-0.453	-0.839	4.374
	-0.420	-0.823	4.374
	-0.389	-0.805	4.374
	-0.358	-0.785	4.374
	-0.328	-0.764	4.374
	-0.300	-0.741	4.374
	-0.273	-0.717	4.374
	-0.246	-0.692	4.374
	-0.221	-0.666	4.374
	-0.196	-0.639	4.374
	-0.173	-0.611	4.374
	-0.150	-0.583	4.374
	-0.128	-0.554	4.374
	-0.106	-0.525	4.374
	-0.085	-0.495	4.374
	-0.064	-0.465	4.374
	-0.044	-0.435	4.374
	-0.024	-0.405	4.374
	-0.004	-0.374	4.374
	0.016	-0.343	4.374
	0.036	-0.313	4.374
	0.055	-0.282	4.374

Table 2

	X	Y	Z
	0.074	-0.251	4.374
	0.094	-0.220	4.374
	0.113	-0.189	4.374
	0.132	-0.158	4.374
	0.151	-0.127	4.374
	0.170	-0.096	4.374
	0.189	-0.065	4.374
	0.208	-0.033	4.374
	0.226	-0.002	4.374
	0.245	0.029	4.374
	0.264	0.060	4.374
	0.282	0.092	4.374
	0.301	0.123	4.374
	0.320	0.154	4.374
	0.338	0.186	4.374
	0.357	0.217	4.374
	0.375	0.248	4.374
	0.394	0.280	4.374
	0.412	0.311	4.374
	0.431	0.343	4.374
	0.449	0.374	4.374
	0.467	0.406	4.374
	0.485	0.437	4.374
	0.504	0.469	4.374
	0.522	0.500	4.374
	0.540	0.532	4.374
	0.558	0.564	4.374
	0.575	0.596	4.374
	0.593	0.627	4.374
	0.611	0.659	4.374
	0.628	0.691	4.374
	0.645	0.723	4.374
	0.663	0.756	4.374
	0.680	0.788	4.374
	0.696	0.820	4.374
	0.713	0.853	4.374
	0.730	0.885	4.374
	0.746	0.918	4.374
	0.762	0.950	4.374
	0.778	0.983	4.374
	0.793	1.016	4.374
	0.809	1.049	4.374
	0.824	1.082	4.374
	0.839	1.115	4.374
	0.854	1.149	4.374
	0.868	1.182	4.374
	0.882	1.216	4.374
	0.896	1.249	4.374

Table 2

	X	Y	Z
	0.910	1.283	4.374
	0.923	1.317	4.374
	0.937	1.351	4.374
	0.939	1.358	4.374
	0.942	1.365	4.374
	0.944	1.371	4.374
	0.947	1.378	4.374
	0.950	1.385	4.374
	0.952	1.392	4.374
	0.955	1.399	4.374
	0.957	1.406	4.374
	0.960	1.412	4.374
	0.962	1.419	4.374
	0.964	1.425	4.374
	0.965	1.432	4.374
	0.965	1.438	4.374
	0.963	1.445	4.374
	0.961	1.451	4.374
	0.958	1.457	4.374
	0.954	1.462	4.374
	0.949	1.466	4.374
	0.944	1.470	4.374
	0.938	1.472	4.374
	0.931	1.474	4.374
	0.925	1.474	4.374
	0.918	1.474	4.374
	0.912	1.472	4.374
	0.906	1.469	4.374
	0.901	1.466	4.374
	0.896	1.462	4.374
	0.892	1.457	4.374
	0.888	1.451	4.374
	0.885	1.445	4.374
	0.882	1.440	4.374
	0.879	1.434	4.374
	0.876	1.428	4.374
	0.873	1.422	4.374
	0.870	1.417	4.374
	0.867	1.411	4.374
	0.864	1.405	4.374
	0.861	1.400	4.374
	0.858	1.394	4.374
	0.842	1.366	4.374
	0.826	1.337	4.374
	0.810	1.309	4.374
	0.794	1.281	4.374
	0.777	1.254	4.374
	0.760	1.226	4.374

Table 2

	X	Y	Z
	0.743	1.199	4.374
	0.726	1.171	4.374
	0.708	1.144	4.374
	0.691	1.117	4.374
	0.673	1.090	4.374
	0.655	1.063	4.374
	0.637	1.036	4.374
	0.619	1.009	4.374
	0.601	0.982	4.374
	0.583	0.955	4.374
	0.564	0.929	4.374
	0.546	0.902	4.374
	0.527	0.875	4.374
	0.509	0.849	4.374
	0.490	0.823	4.374
	0.471	0.796	4.374
	0.453	0.770	4.374
	0.434	0.743	4.374
	0.415	0.717	4.374
	0.396	0.691	4.374
	0.377	0.665	4.374
	0.358	0.638	4.374
	0.339	0.612	4.374
	0.320	0.586	4.374
	0.301	0.560	4.374
	0.282	0.534	4.374
	0.263	0.508	4.374
	0.243	0.482	4.374
	0.224	0.456	4.374
	0.205	0.430	4.374
	0.185	0.404	4.374
	0.166	0.378	4.374
	0.146	0.352	4.374
	0.127	0.326	4.374
	0.107	0.300	4.374
	0.087	0.275	4.374
	0.068	0.249	4.374
	0.048	0.224	4.374
	0.027	0.198	4.374
	0.007	0.173	4.374
	-0.013	0.148	4.374
	-0.034	0.123	4.374
	-0.055	0.098	4.374
	-0.076	0.074	4.374
	-0.097	0.049	4.374
	-0.118	0.025	4.374
	-0.140	0.001	4.374
	-0.162	-0.023	4.374

Table 2

	X	Y	Z
	-0.184	-0.047	4.374
	-0.206	-0.070	4.374
	-0.229	-0.094	4.374
	-0.251	-0.117	4.374
	-0.274	-0.139	4.374
	-0.297	-0.162	4.374
	-0.321	-0.184	4.374
	-0.344	-0.207	4.374
	-0.368	-0.229	4.374
	-0.392	-0.250	4.374
	-0.416	-0.272	4.374
	-0.440	-0.294	4.374
	-0.465	-0.315	4.374
	-0.489	-0.336	4.374
	-0.514	-0.357	4.374
	-0.538	-0.378	4.374
	-0.563	-0.399	4.374
	-0.587	-0.421	4.374
	-0.612	-0.442	4.374
	-0.636	-0.463	4.374
	-0.661	-0.484	4.374
	-0.685	-0.505	4.374
	-0.709	-0.527	4.374
	-0.733	-0.549	4.374
	-0.757	-0.571	4.374
	-0.762	-0.575	4.374
	-0.766	-0.580	4.374
	-0.771	-0.584	4.374
	-0.775	-0.589	4.374
	-0.780	-0.593	4.374
	-0.785	-0.598	4.374
	-0.789	-0.603	4.374
	-0.794	-0.607	4.374
	-0.798	-0.612	4.374
	-0.803	-0.616	4.374
	-0.813	-0.627	4.374
	-0.822	-0.639	4.374
	-0.830	-0.651	4.374
	-0.836	-0.665	4.374
	-0.842	-0.678	4.374
	-0.846	-0.693	4.374
	-0.849	-0.707	4.374
	-0.850	-0.722	4.374
	-0.850	-0.737	4.374
	-0.848	-0.751	4.374
	-0.845	-0.766	4.374
	-0.840	-0.780	4.374
	-0.834	-0.793	4.374

Table 2

	X	Y	Z
	-0.827	-0.806	4.374
	-0.818	-0.818	4.374
	-0.808	-0.828	4.374
	-0.796	-0.838	4.374
	-0.784	-0.846	4.374
SECTION 3			
	-0.782	-0.862	4.524
	-0.776	-0.865	4.524
	-0.769	-0.868	4.524
	-0.762	-0.870	4.524
	-0.755	-0.873	4.524
	-0.748	-0.875	4.524
	-0.741	-0.877	4.524
	-0.734	-0.879	4.524
	-0.727	-0.881	4.524
	-0.719	-0.883	4.524
	-0.712	-0.884	4.524
	-0.676	-0.889	4.524
	-0.639	-0.890	4.524
	-0.602	-0.888	4.524
	-0.565	-0.882	4.524
	-0.530	-0.873	4.524
	-0.494	-0.862	4.524
	-0.460	-0.848	4.524
	-0.427	-0.832	4.524
	-0.394	-0.814	4.524
	-0.363	-0.795	4.524
	-0.333	-0.773	4.524
	-0.304	-0.751	4.524
	-0.276	-0.727	4.524
	-0.249	-0.702	4.524
	-0.223	-0.675	4.524
	-0.198	-0.648	4.524
	-0.173	-0.621	4.524
	-0.150	-0.592	4.524
	-0.127	-0.563	4.524
	-0.104	-0.534	4.524
	-0.083	-0.504	4.524
	-0.061	-0.474	4.524
	-0.040	-0.443	4.524
	-0.020	-0.413	4.524
	0.000	-0.382	4.524
	0.020	-0.351	4.524
	0.040	-0.319	4.524
	0.060	-0.288	4.524
	0.080	-0.257	4.524
	0.099	-0.226	4.524
	0.119	-0.194	4.524

Table 2

	X	Y	Z
	0.138	-0.163	4.524
	0.157	-0.131	4.524
	0.176	-0.099	4.524
	0.195	-0.068	4.524
	0.214	-0.036	4.524
	0.233	-0.004	4.524
	0.251	0.028	4.524
	0.270	0.060	4.524
	0.289	0.091	4.524
	0.307	0.123	4.524
	0.326	0.155	4.524
	0.344	0.187	4.524
	0.363	0.219	4.524
	0.381	0.251	4.524
	0.399	0.283	4.524
	0.418	0.316	4.524
	0.436	0.348	4.524
	0.454	0.380	4.524
	0.472	0.412	4.524
	0.490	0.444	4.524
	0.508	0.476	4.524
	0.526	0.509	4.524
	0.544	0.541	4.524
	0.562	0.573	4.524
	0.580	0.606	4.524
	0.597	0.638	4.524
	0.615	0.671	4.524
	0.632	0.704	4.524
	0.649	0.736	4.524
	0.666	0.769	4.524
	0.683	0.802	4.524
	0.700	0.835	4.524
	0.717	0.868	4.524
	0.733	0.901	4.524
	0.749	0.934	4.524
	0.765	0.967	4.524
	0.781	1.001	4.524
	0.797	1.034	4.524
	0.812	1.068	4.524
	0.827	1.101	4.524
	0.842	1.135	4.524
	0.857	1.169	4.524
	0.872	1.203	4.524
	0.886	1.237	4.524
	0.900	1.271	4.524
	0.914	1.305	4.524
	0.927	1.340	4.524
	0.941	1.374	4.524

Table 2

	X	Y	Z
	0.943	1.381	4.524
	0.946	1.388	4.524
	0.949	1.395	4.524
	0.951	1.402	4.524
	0.954	1.409	4.524
	0.957	1.416	4.524
	0.959	1.423	4.524
	0.962	1.429	4.524
	0.964	1.436	4.524
	0.967	1.443	4.524
	0.969	1.450	4.524
	0.970	1.456	4.524
	0.969	1.463	4.524
	0.968	1.469	4.524
	0.966	1.476	4.524
	0.963	1.481	4.524
	0.959	1.487	4.524
	0.954	1.491	4.524
	0.948	1.495	4.524
	0.942	1.497	4.524
	0.936	1.499	4.524
	0.929	1.500	4.524
	0.922	1.499	4.524
	0.916	1.497	4.524
	0.910	1.495	4.524
	0.904	1.491	4.524
	0.899	1.487	4.524
	0.895	1.482	4.524
	0.891	1.476	4.524
	0.888	1.470	4.524
	0.885	1.465	4.524
	0.882	1.459	4.524
	0.879	1.453	4.524
	0.876	1.447	4.524
	0.873	1.441	4.524
	0.870	1.436	4.524
	0.867	1.430	4.524
	0.863	1.424	4.524
	0.860	1.418	4.524
	0.844	1.390	4.524
	0.828	1.361	4.524
	0.812	1.333	4.524
	0.796	1.304	4.524
	0.779	1.276	4.524
	0.762	1.248	4.524
	0.745	1.220	4.524
	0.728	1.192	4.524
	0.710	1.164	4.524

Table 2

	X	Y	Z
	0.693	1.137	4.524
	0.675	1.109	4.524
	0.657	1.082	4.524
	0.639	1.054	4.524
	0.621	1.027	4.524
	0.603	0.999	4.524
	0.585	0.972	4.524
	0.566	0.945	4.524
	0.548	0.918	4.524
	0.529	0.891	4.524
	0.511	0.864	4.524
	0.492	0.837	4.524
	0.474	0.810	4.524
	0.455	0.783	4.524
	0.436	0.756	4.524
	0.417	0.729	4.524
	0.398	0.702	4.524
	0.379	0.675	4.524
	0.360	0.649	4.524
	0.341	0.622	4.524
	0.322	0.595	4.524
	0.303	0.569	4.524
	0.284	0.542	4.524
	0.265	0.515	4.524
	0.246	0.489	4.524
	0.226	0.462	4.524
	0.207	0.436	4.524
	0.187	0.410	4.524
	0.168	0.383	4.524
	0.148	0.357	4.524
	0.128	0.331	4.524
	0.109	0.305	4.524
	0.089	0.279	4.524
	0.069	0.253	4.524
	0.049	0.227	4.524
	0.028	0.201	4.524
	0.008	0.175	4.524
	-0.013	0.150	4.524
	-0.034	0.125	4.524
	-0.055	0.099	4.524
	-0.076	0.074	4.524
	-0.097	0.049	4.524
	-0.119	0.025	4.524
	-0.141	0.000	4.524
	-0.163	-0.024	4.524
	-0.185	-0.048	4.524
	-0.208	-0.072	4.524
	-0.230	-0.096	4.524

Table 2

	X	Y	Z
	-0.253	-0.119	4.524
	-0.276	-0.142	4.524
	-0.300	-0.165	4.524
	-0.323	-0.188	4.524
	-0.347	-0.210	4.524
	-0.371	-0.233	4.524
	-0.395	-0.255	4.524
	-0.420	-0.277	4.524
	-0.444	-0.299	4.524
	-0.469	-0.320	4.524
	-0.494	-0.342	4.524
	-0.518	-0.363	4.524
	-0.543	-0.385	4.524
	-0.568	-0.406	4.524
	-0.593	-0.427	4.524
	-0.618	-0.449	4.524
	-0.643	-0.470	4.524
	-0.668	-0.492	4.524
	-0.692	-0.513	4.524
	-0.717	-0.535	4.524
	-0.741	-0.557	4.524
	-0.766	-0.579	4.524
	-0.770	-0.583	4.524
	-0.775	-0.588	4.524
	-0.780	-0.592	4.524
	-0.785	-0.597	4.524
	-0.789	-0.601	4.524
	-0.794	-0.606	4.524
	-0.799	-0.610	4.524
	-0.804	-0.615	4.524
	-0.808	-0.620	4.524
	-0.813	-0.624	4.524
	-0.823	-0.635	4.524
	-0.832	-0.647	4.524
	-0.840	-0.659	4.524
	-0.847	-0.672	4.524
	-0.853	-0.686	4.524
	-0.857	-0.700	4.524
	-0.860	-0.715	4.524
	-0.861	-0.730	4.524
	-0.861	-0.745	4.524
	-0.860	-0.759	4.524
	-0.856	-0.774	4.524
	-0.852	-0.788	4.524
	-0.846	-0.802	4.524
	-0.838	-0.814	4.524
	-0.829	-0.826	4.524
	-0.819	-0.837	4.524

Table 2

	X	Y	Z
	-0.808	-0.847	4.524
	-0.796	-0.855	4.524
SECTION 4			
	-0.794	-0.871	4.674
	-0.787	-0.874	4.674
	-0.780	-0.877	4.674
	-0.773	-0.880	4.674
	-0.766	-0.882	4.674
	-0.759	-0.885	4.674
	-0.752	-0.887	4.674
	-0.745	-0.889	4.674
	-0.737	-0.891	4.674
	-0.730	-0.892	4.674
	-0.723	-0.894	4.674
	-0.686	-0.899	4.674
	-0.648	-0.900	4.674
	-0.611	-0.897	4.674
	-0.574	-0.891	4.674
	-0.538	-0.883	4.674
	-0.502	-0.871	4.674
	-0.467	-0.858	4.674
	-0.433	-0.842	4.674
	-0.400	-0.824	4.674
	-0.368	-0.804	4.674
	-0.338	-0.783	4.674
	-0.308	-0.760	4.674
	-0.279	-0.736	4.674
	-0.251	-0.711	4.674
	-0.225	-0.685	4.674
	-0.199	-0.658	4.674
	-0.174	-0.630	4.674
	-0.149	-0.601	4.674
	-0.126	-0.572	4.674
	-0.103	-0.543	4.674
	-0.081	-0.513	4.674
	-0.059	-0.482	4.674
	-0.037	-0.451	4.674
	-0.016	-0.420	4.674
	0.004	-0.389	4.674
	0.025	-0.358	4.674
	0.045	-0.326	4.674
	0.065	-0.295	4.674
	0.085	-0.263	4.674
	0.105	-0.231	4.674
	0.124	-0.199	4.674
	0.144	-0.167	4.674
	0.163	-0.135	4.674
	0.182	-0.103	4.674

Table 2

	X	Y	Z
	0.201	-0.071	4.674
	0.220	-0.038	4.674
	0.239	-0.006	4.674
	0.257	0.026	4.674
	0.276	0.059	4.674
	0.295	0.091	4.674
	0.313	0.124	4.674
	0.332	0.157	4.674
	0.350	0.189	4.674
	0.368	0.222	4.674
	0.387	0.254	4.674
	0.405	0.287	4.674
	0.423	0.320	4.674
	0.441	0.353	4.674
	0.459	0.385	4.674
	0.477	0.418	4.674
	0.495	0.451	4.674
	0.513	0.484	4.674
	0.531	0.517	4.674
	0.549	0.550	4.674
	0.566	0.583	4.674
	0.584	0.616	4.674
	0.601	0.649	4.674
	0.619	0.682	4.674
	0.636	0.716	4.674
	0.653	0.749	4.674
	0.670	0.782	4.674
	0.687	0.816	4.674
	0.703	0.849	4.674
	0.720	0.883	4.674
	0.736	0.917	4.674
	0.752	0.950	4.674
	0.768	0.984	4.674
	0.784	1.018	4.674
	0.800	1.052	4.674
	0.815	1.086	4.674
	0.830	1.121	4.674
	0.845	1.155	4.674
	0.860	1.189	4.674
	0.875	1.224	4.674
	0.889	1.258	4.674
	0.903	1.293	4.674
	0.917	1.328	4.674
	0.931	1.362	4.674
	0.945	1.397	4.674
	0.948	1.404	4.674
	0.950	1.411	4.674
	0.953	1.418	4.674

Table 2

	X	Y	Z
	0.956	1.425	4.674
	0.958	1.432	4.674
	0.961	1.439	4.674
	0.964	1.446	4.674
	0.966	1.453	4.674
	0.969	1.460	4.674
	0.971	1.467	4.674
	0.973	1.474	4.674
	0.974	1.481	4.674
	0.974	1.487	4.674
	0.973	1.494	4.674
	0.970	1.500	4.674
	0.967	1.506	4.674
	0.963	1.512	4.674
	0.958	1.516	4.674
	0.952	1.520	4.674
	0.946	1.523	4.674
	0.940	1.524	4.674
	0.933	1.525	4.674
	0.926	1.524	4.674
	0.920	1.523	4.674
	0.913	1.520	4.674
	0.908	1.517	4.674
	0.902	1.512	4.674
	0.898	1.507	4.674
	0.894	1.501	4.674
	0.891	1.496	4.674
	0.888	1.490	4.674
	0.885	1.484	4.674
	0.882	1.478	4.674
	0.879	1.472	4.674
	0.876	1.466	4.674
	0.872	1.460	4.674
	0.869	1.455	4.674
	0.866	1.449	4.674
	0.863	1.443	4.674
	0.847	1.414	4.674
	0.831	1.385	4.674
	0.814	1.356	4.674
	0.797	1.327	4.674
	0.781	1.299	4.674
	0.764	1.270	4.674
	0.746	1.242	4.674
	0.729	1.213	4.674
	0.712	1.185	4.674
	0.694	1.157	4.674
	0.677	1.129	4.674
	0.659	1.101	4.674

Table 2

	X	Y	Z
	0.641	1.073	4.674
	0.623	1.045	4.674
	0.605	1.017	4.674
	0.587	0.989	4.674
	0.568	0.961	4.674
	0.550	0.934	4.674
	0.532	0.906	4.674
	0.513	0.878	4.674
	0.495	0.851	4.674
	0.476	0.823	4.674
	0.457	0.796	4.674
	0.438	0.768	4.674
	0.420	0.741	4.674
	0.401	0.714	4.674
	0.382	0.686	4.674
	0.363	0.659	4.674
	0.344	0.632	4.674
	0.325	0.605	4.674
	0.306	0.577	4.674
	0.286	0.550	4.674
	0.267	0.523	4.674
	0.248	0.496	4.674
	0.228	0.469	4.674
	0.209	0.442	4.674
	0.189	0.416	4.674
	0.170	0.389	4.674
	0.150	0.362	4.674
	0.130	0.335	4.674
	0.110	0.309	4.674
	0.090	0.282	4.674
	0.070	0.256	4.674
	0.050	0.230	4.674
	0.029	0.204	4.674
	0.008	0.178	4.674
	-0.012	0.152	4.674
	-0.033	0.126	4.674
	-0.055	0.100	4.674
	-0.076	0.075	4.674
	-0.098	0.050	4.674
	-0.119	0.025	4.674
	-0.141	0.000	4.674
	-0.164	-0.025	4.674
	-0.186	-0.049	4.674
	-0.209	-0.073	4.674
	-0.232	-0.097	4.674
	-0.255	-0.121	4.674
	-0.279	-0.145	4.674
	-0.302	-0.168	4.674

Table 2

	X	Y	Z
	-0.326	-0.191	4.674
	-0.350	-0.214	4.674
	-0.374	-0.237	4.674
	-0.399	-0.259	4.674
	-0.423	-0.282	4.674
	-0.448	-0.304	4.674
	-0.473	-0.326	4.674
	-0.498	-0.348	4.674
	-0.523	-0.370	4.674
	-0.548	-0.391	4.674
	-0.573	-0.413	4.674
	-0.599	-0.434	4.674
	-0.624	-0.456	4.674
	-0.649	-0.478	4.674
	-0.675	-0.499	4.674
	-0.700	-0.521	4.674
	-0.725	-0.543	4.674
	-0.750	-0.565	4.674
	-0.774	-0.587	4.674
	-0.779	-0.591	4.674
	-0.784	-0.596	4.674
	-0.789	-0.600	4.674
	-0.794	-0.605	4.674
	-0.799	-0.609	4.674
	-0.804	-0.614	4.674
	-0.809	-0.618	4.674
	-0.813	-0.623	4.674
	-0.818	-0.627	4.674
	-0.823	-0.632	4.674
	-0.833	-0.643	4.674
	-0.843	-0.654	4.674
	-0.851	-0.667	4.674
	-0.858	-0.680	4.674
	-0.864	-0.694	4.674
	-0.868	-0.708	4.674
	-0.871	-0.723	4.674
	-0.873	-0.738	4.674
	-0.873	-0.753	4.674
	-0.871	-0.768	4.674
	-0.868	-0.782	4.674
	-0.863	-0.796	4.674
	-0.857	-0.810	4.674
	-0.850	-0.823	4.674
	-0.841	-0.835	4.674
	-0.831	-0.846	4.674
	-0.820	-0.856	4.674
	-0.807	-0.864	4.674
SECTION 5			

Table 2

	X	Y	Z
	-0.806	-0.881	4.824
	-0.799	-0.884	4.824
	-0.792	-0.887	4.824
	-0.785	-0.889	4.824
	-0.777	-0.892	4.824
	-0.770	-0.894	4.824
	-0.763	-0.896	4.824
	-0.756	-0.898	4.824
	-0.748	-0.900	4.824
	-0.741	-0.902	4.824
	-0.733	-0.903	4.824
	-0.696	-0.908	4.824
	-0.658	-0.909	4.824
	-0.620	-0.906	4.824
	-0.583	-0.901	4.824
	-0.546	-0.892	4.824
	-0.509	-0.880	4.824
	-0.474	-0.867	4.824
	-0.439	-0.851	4.824
	-0.406	-0.833	4.824
	-0.373	-0.814	4.824
	-0.342	-0.792	4.824
	-0.312	-0.770	4.824
	-0.282	-0.746	4.824
	-0.254	-0.721	4.824
	-0.226	-0.694	4.824
	-0.200	-0.667	4.824
	-0.174	-0.639	4.824
	-0.149	-0.611	4.824
	-0.125	-0.581	4.824
	-0.101	-0.552	4.824
	-0.079	-0.521	4.824
	-0.056	-0.491	4.824
	-0.034	-0.460	4.824
	-0.013	-0.428	4.824
	0.008	-0.397	4.824
	0.029	-0.365	4.824
	0.050	-0.333	4.824
	0.070	-0.301	4.824
	0.090	-0.269	4.824
	0.110	-0.237	4.824
	0.130	-0.204	4.824
	0.149	-0.172	4.824
	0.169	-0.139	4.824
	0.188	-0.106	4.824
	0.207	-0.074	4.824
	0.226	-0.041	4.824
	0.245	-0.008	4.824

Table 2

	X	Y	Z
	0.264	0.025	4.824
	0.282	0.058	4.824
	0.301	0.091	4.824
	0.319	0.125	4.824
	0.338	0.158	4.824
	0.356	0.191	4.824
	0.374	0.224	4.824
	0.392	0.258	4.824
	0.410	0.291	4.824
	0.429	0.324	4.824
	0.447	0.358	4.824
	0.464	0.391	4.824
	0.482	0.425	4.824
	0.500	0.458	4.824
	0.518	0.492	4.824
	0.536	0.525	4.824
	0.553	0.559	4.824
	0.571	0.593	4.824
	0.588	0.626	4.824
	0.605	0.660	4.824
	0.623	0.694	4.824
	0.640	0.728	4.824
	0.657	0.762	4.824
	0.673	0.796	4.824
	0.690	0.830	4.824
	0.707	0.864	4.824
	0.723	0.898	4.824
	0.739	0.932	4.824
	0.756	0.967	4.824
	0.771	1.001	4.824
	0.787	1.036	4.824
	0.803	1.070	4.824
	0.818	1.105	4.824
	0.834	1.140	4.824
	0.849	1.175	4.824
	0.863	1.210	4.824
	0.878	1.245	4.824
	0.893	1.280	4.824
	0.907	1.315	4.824
	0.921	1.350	4.824
	0.935	1.385	4.824
	0.949	1.421	4.824
	0.952	1.428	4.824
	0.954	1.435	4.824
	0.957	1.442	4.824
	0.960	1.449	4.824
	0.963	1.456	4.824
	0.965	1.463	4.824

Table 2

	X	Y	Z
	0.968	1.470	4.824
	0.971	1.477	4.824
	0.973	1.484	4.824
	0.976	1.491	4.824
	0.978	1.498	4.824
	0.979	1.505	4.824
	0.979	1.512	4.824
	0.977	1.519	4.824
	0.975	1.525	4.824
	0.972	1.531	4.824
	0.968	1.537	4.824
	0.963	1.541	4.824
	0.957	1.545	4.824
	0.950	1.548	4.824
	0.944	1.550	4.824
	0.937	1.550	4.824
	0.930	1.550	4.824
	0.923	1.548	4.824
	0.917	1.546	4.824
	0.911	1.542	4.824
	0.906	1.538	4.824
	0.901	1.532	4.824
	0.897	1.527	4.824
	0.894	1.521	4.824
	0.891	1.515	4.824
	0.888	1.509	4.824
	0.885	1.503	4.824
	0.882	1.497	4.824
	0.878	1.491	4.824
	0.875	1.485	4.824
	0.872	1.479	4.824
	0.869	1.473	4.824
	0.865	1.467	4.824
	0.849	1.438	4.824
	0.833	1.409	4.824
	0.816	1.379	4.824
	0.799	1.350	4.824
	0.782	1.321	4.824
	0.765	1.292	4.824
	0.748	1.263	4.824
	0.731	1.234	4.824
	0.713	1.205	4.824
	0.696	1.177	4.824
	0.678	1.148	4.824
	0.661	1.120	4.824
	0.643	1.091	4.824
	0.625	1.063	4.824
	0.607	1.034	4.824

Table 2

	X	Y	Z
	0.589	1.006	4.824
	0.570	0.978	4.824
	0.552	0.949	4.824
	0.534	0.921	4.824
	0.515	0.893	4.824
	0.497	0.865	4.824
	0.478	0.837	4.824
	0.459	0.809	4.824
	0.441	0.781	4.824
	0.422	0.753	4.824
	0.403	0.725	4.824
	0.384	0.697	4.824
	0.365	0.669	4.824
	0.346	0.642	4.824
	0.327	0.614	4.824
	0.308	0.586	4.824
	0.289	0.559	4.824
	0.270	0.531	4.824
	0.250	0.504	4.824
	0.231	0.476	4.824
	0.211	0.449	4.824
	0.191	0.422	4.824
	0.172	0.394	4.824
	0.152	0.367	4.824
	0.132	0.340	4.824
	0.112	0.313	4.824
	0.092	0.286	4.824
	0.071	0.259	4.824
	0.051	0.233	4.824
	0.030	0.206	4.824
	0.009	0.180	4.824
	-0.012	0.153	4.824
	-0.033	0.127	4.824
	-0.054	0.101	4.824
	-0.076	0.076	4.824
	-0.098	0.050	4.824
	-0.120	0.025	4.824
	-0.142	-0.001	4.824
	-0.165	-0.026	4.824
	-0.188	-0.050	4.824
	-0.210	-0.075	4.824
	-0.234	-0.099	4.824
	-0.257	-0.123	4.824
	-0.281	-0.147	4.824
	-0.305	-0.171	4.824
	-0.329	-0.195	4.824
	-0.353	-0.218	4.824
	-0.377	-0.241	4.824

Table 2

	X	Y	Z
	-0.402	-0.264	4.824
	-0.427	-0.287	4.824
	-0.452	-0.309	4.824
	-0.477	-0.331	4.824
	-0.502	-0.354	4.824
	-0.528	-0.376	4.824
	-0.553	-0.398	4.824
	-0.579	-0.420	4.824
	-0.604	-0.441	4.824
	-0.630	-0.463	4.824
	-0.656	-0.485	4.824
	-0.681	-0.507	4.824
	-0.707	-0.529	4.824
	-0.732	-0.551	4.824
	-0.758	-0.573	4.824
	-0.783	-0.595	4.824
	-0.788	-0.599	4.824
	-0.793	-0.604	4.824
	-0.798	-0.608	4.824
	-0.803	-0.613	4.824
	-0.808	-0.617	4.824
	-0.813	-0.622	4.824
	-0.818	-0.626	4.824
	-0.823	-0.631	4.824
	-0.828	-0.635	4.824
	-0.833	-0.640	4.824
	-0.844	-0.651	4.824
	-0.853	-0.662	4.824
	-0.862	-0.675	4.824
	-0.869	-0.688	4.824
	-0.875	-0.702	4.824
	-0.879	-0.716	4.824
	-0.882	-0.731	4.824
	-0.884	-0.746	4.824
	-0.884	-0.761	4.824
	-0.883	-0.776	4.824
	-0.880	-0.791	4.824
	-0.875	-0.805	4.824
	-0.869	-0.819	4.824
	-0.862	-0.832	4.824
	-0.853	-0.844	4.824
	-0.843	-0.855	4.824
	-0.831	-0.865	4.824
	-0.819	-0.874	4.824
SECTION 6			
	-0.817	-0.890	4.974
	-0.810	-0.893	4.974
	-0.803	-0.896	4.974

Table 2

	X	Y	Z
	-0.796	-0.899	4.974
	-0.789	-0.901	4.974
	-0.781	-0.904	4.974
	-0.774	-0.906	4.974
	-0.767	-0.908	4.974
	-0.759	-0.910	4.974
	-0.752	-0.911	4.974
	-0.744	-0.913	4.974
	-0.706	-0.918	4.974
	-0.667	-0.919	4.974
	-0.629	-0.916	4.974
	-0.591	-0.910	4.974
	-0.554	-0.901	4.974
	-0.517	-0.890	4.974
	-0.481	-0.876	4.974
	-0.446	-0.860	4.974
	-0.412	-0.843	4.974
	-0.379	-0.823	4.974
	-0.347	-0.802	4.974
	-0.315	-0.779	4.974
	-0.285	-0.755	4.974
	-0.256	-0.730	4.974
	-0.228	-0.704	4.974
	-0.201	-0.677	4.974
	-0.174	-0.649	4.974
	-0.149	-0.620	4.974
	-0.124	-0.591	4.974
	-0.100	-0.561	4.974
	-0.076	-0.530	4.974
	-0.054	-0.499	4.974
	-0.031	-0.468	4.974
	-0.009	-0.436	4.974
	0.012	-0.405	4.974
	0.034	-0.373	4.974
	0.055	-0.340	4.974
	0.075	-0.308	4.974
	0.095	-0.275	4.974
	0.116	-0.242	4.974
	0.136	-0.209	4.974
	0.155	-0.176	4.974
	0.175	-0.143	4.974
	0.194	-0.110	4.974
	0.213	-0.077	4.974
	0.232	-0.043	4.974
	0.251	-0.010	4.974
	0.270	0.024	4.974
	0.288	0.058	4.974
	0.307	0.091	4.974

Table 2

	X	Y	Z
	0.325	0.125	4.974
	0.343	0.159	4.974
	0.362	0.193	4.974
	0.380	0.227	4.974
	0.398	0.261	4.974
	0.416	0.295	4.974
	0.434	0.329	4.974
	0.452	0.363	4.974
	0.470	0.397	4.974
	0.487	0.431	4.974
	0.505	0.465	4.974
	0.523	0.499	4.974
	0.540	0.533	4.974
	0.558	0.568	4.974
	0.575	0.602	4.974
	0.592	0.636	4.974
	0.609	0.671	4.974
	0.626	0.705	4.974
	0.643	0.740	4.974
	0.660	0.774	4.974
	0.677	0.809	4.974
	0.694	0.844	4.974
	0.710	0.879	4.974
	0.726	0.913	4.974
	0.743	0.948	4.974
	0.759	0.983	4.974
	0.775	1.018	4.974
	0.790	1.053	4.974
	0.806	1.088	4.974
	0.821	1.124	4.974
	0.837	1.159	4.974
	0.852	1.194	4.974
	0.867	1.230	4.974
	0.881	1.265	4.974
	0.896	1.301	4.974
	0.911	1.336	4.974
	0.925	1.372	4.974
	0.939	1.408	4.974
	0.953	1.444	4.974
	0.956	1.451	4.974
	0.959	1.458	4.974
	0.961	1.465	4.974
	0.964	1.472	4.974
	0.967	1.480	4.974
	0.970	1.487	4.974
	0.972	1.494	4.974
	0.975	1.501	4.974
	0.978	1.508	4.974

Table 2

	X	Y	Z
	0.981	1.516	4.974
	0.983	1.522	4.974
	0.984	1.529	4.974
	0.983	1.536	4.974
	0.982	1.543	4.974
	0.980	1.550	4.974
	0.976	1.556	4.974
	0.972	1.562	4.974
	0.967	1.566	4.974
	0.961	1.570	4.974
	0.955	1.573	4.974
	0.948	1.575	4.974
	0.941	1.576	4.974
	0.934	1.575	4.974
	0.927	1.574	4.974
	0.920	1.571	4.974
	0.914	1.567	4.974
	0.909	1.563	4.974
	0.904	1.558	4.974
	0.901	1.552	4.974
	0.897	1.546	4.974
	0.894	1.540	4.974
	0.891	1.534	4.974
	0.888	1.528	4.974
	0.884	1.522	4.974
	0.881	1.516	4.974
	0.878	1.510	4.974
	0.875	1.504	4.974
	0.871	1.498	4.974
	0.868	1.492	4.974
	0.852	1.462	4.974
	0.835	1.432	4.974
	0.818	1.403	4.974
	0.801	1.373	4.974
	0.784	1.343	4.974
	0.767	1.314	4.974
	0.750	1.285	4.974
	0.733	1.255	4.974
	0.715	1.226	4.974
	0.698	1.197	4.974
	0.680	1.168	4.974
	0.662	1.139	4.974
	0.644	1.110	4.974
	0.626	1.081	4.974
	0.608	1.052	4.974
	0.590	1.023	4.974
	0.572	0.994	4.974
	0.554	0.965	4.974

Table 2

	X	Y	Z
	0.536	0.936	4.974
	0.517	0.908	4.974
	0.499	0.879	4.974
	0.480	0.850	4.974
	0.462	0.822	4.974
	0.443	0.793	4.974
	0.424	0.765	4.974
	0.406	0.736	4.974
	0.387	0.708	4.974
	0.368	0.680	4.974
	0.349	0.652	4.974
	0.330	0.623	4.974
	0.310	0.595	4.974
	0.291	0.567	4.974
	0.272	0.539	4.974
	0.252	0.511	4.974
	0.233	0.483	4.974
	0.213	0.455	4.974
	0.193	0.428	4.974
	0.174	0.400	4.974
	0.154	0.372	4.974
	0.134	0.345	4.974
	0.113	0.317	4.974
	0.093	0.290	4.974
	0.072	0.263	4.974
	0.052	0.236	4.974
	0.031	0.209	4.974
	0.010	0.182	4.974
	-0.011	0.155	4.974
	-0.033	0.129	4.974
	-0.054	0.102	4.974
	-0.076	0.076	4.974
	-0.098	0.050	4.974
	-0.121	0.025	4.974
	-0.143	-0.001	4.974
	-0.166	-0.026	4.974
	-0.189	-0.052	4.974
	-0.212	-0.077	4.974
	-0.235	-0.101	4.974
	-0.259	-0.126	4.974
	-0.283	-0.150	4.974
	-0.307	-0.174	4.974
	-0.331	-0.198	4.974
	-0.356	-0.222	4.974
	-0.381	-0.245	4.974
	-0.406	-0.268	4.974
	-0.431	-0.291	4.974
	-0.456	-0.314	4.974

Table 2

	X	Y	Z
	-0.481	-0.337	4.974
	-0.507	-0.359	4.974
	-0.533	-0.382	4.974
	-0.558	-0.404	4.974
	-0.584	-0.426	4.974
	-0.610	-0.448	4.974
	-0.636	-0.470	4.974
	-0.662	-0.492	4.974
	-0.688	-0.514	4.974
	-0.714	-0.536	4.974
	-0.740	-0.558	4.974
	-0.766	-0.581	4.974
	-0.792	-0.603	4.974
	-0.797	-0.607	4.974
	-0.802	-0.612	4.974
	-0.807	-0.616	4.974
	-0.813	-0.621	4.974
	-0.818	-0.625	4.974
	-0.823	-0.630	4.974
	-0.828	-0.634	4.974
	-0.833	-0.639	4.974
	-0.838	-0.643	4.974
	-0.843	-0.648	4.974
	-0.854	-0.658	4.974
	-0.864	-0.670	4.974
	-0.872	-0.682	4.974
	-0.880	-0.696	4.974
	-0.886	-0.709	4.974
	-0.890	-0.724	4.974
	-0.894	-0.739	4.974
	-0.895	-0.754	4.974
	-0.896	-0.769	4.974
	-0.894	-0.784	4.974
	-0.891	-0.799	4.974
	-0.887	-0.813	4.974
	-0.881	-0.827	4.974
	-0.873	-0.840	4.974
	-0.864	-0.853	4.974
	-0.854	-0.864	4.974
	-0.843	-0.874	4.974
	-0.830	-0.883	4.974
SECTION 7			
	-0.829	-0.899	5.124
	-0.822	-0.902	5.124
	-0.814	-0.905	5.124
	-0.807	-0.908	5.124
	-0.800	-0.911	5.124
	-0.792	-0.913	5.124

Table 2

	X	Y	Z
	-0.785	-0.916	5.124
	-0.777	-0.918	5.124
	-0.770	-0.919	5.124
	-0.762	-0.921	5.124
	-0.755	-0.923	5.124
	-0.716	-0.927	5.124
	-0.677	-0.928	5.124
	-0.638	-0.925	5.124
	-0.600	-0.919	5.124
	-0.562	-0.910	5.124
	-0.524	-0.899	5.124
	-0.488	-0.885	5.124
	-0.452	-0.870	5.124
	-0.417	-0.852	5.124
	-0.384	-0.832	5.124
	-0.351	-0.811	5.124
	-0.319	-0.789	5.124
	-0.289	-0.765	5.124
	-0.259	-0.740	5.124
	-0.230	-0.713	5.124
	-0.202	-0.686	5.124
	-0.175	-0.658	5.124
	-0.149	-0.629	5.124
	-0.123	-0.600	5.124
	-0.098	-0.570	5.124
	-0.074	-0.539	5.124
	-0.051	-0.508	5.124
	-0.028	-0.476	5.124
	-0.006	-0.445	5.124
	0.016	-0.412	5.124
	0.038	-0.380	5.124
	0.059	-0.347	5.124
	0.080	-0.314	5.124
	0.101	-0.281	5.124
	0.121	-0.248	5.124
	0.141	-0.215	5.124
	0.161	-0.181	5.124
	0.181	-0.147	5.124
	0.200	-0.114	5.124
	0.219	-0.080	5.124
	0.238	-0.046	5.124
	0.257	-0.011	5.124
	0.276	0.023	5.124
	0.294	0.057	5.124
	0.313	0.091	5.124
	0.331	0.126	5.124
	0.349	0.160	5.124
	0.368	0.195	5.124

Table 2

	X	Y	Z
	0.386	0.229	5.124
	0.404	0.264	5.124
	0.421	0.298	5.124
	0.439	0.333	5.124
	0.457	0.368	5.124
	0.475	0.402	5.124
	0.492	0.437	5.124
	0.510	0.472	5.124
	0.527	0.507	5.124
	0.545	0.542	5.124
	0.562	0.577	5.124
	0.579	0.612	5.124
	0.596	0.647	5.124
	0.613	0.682	5.124
	0.630	0.717	5.124
	0.647	0.752	5.124
	0.664	0.787	5.124
	0.681	0.822	5.124
	0.697	0.858	5.124
	0.713	0.893	5.124
	0.730	0.929	5.124
	0.746	0.964	5.124
	0.762	1.000	5.124
	0.778	1.035	5.124
	0.793	1.071	5.124
	0.809	1.106	5.124
	0.824	1.142	5.124
	0.840	1.178	5.124
	0.855	1.214	5.124
	0.870	1.250	5.124
	0.885	1.286	5.124
	0.900	1.322	5.124
	0.914	1.358	5.124
	0.929	1.394	5.124
	0.943	1.431	5.124
	0.957	1.467	5.124
	0.960	1.474	5.124
	0.963	1.481	5.124
	0.966	1.489	5.124
	0.968	1.496	5.124
	0.971	1.503	5.124
	0.974	1.511	5.124
	0.977	1.518	5.124
	0.980	1.525	5.124
	0.982	1.532	5.124
	0.985	1.540	5.124
	0.987	1.547	5.124
	0.988	1.554	5.124

Table 2

	X	Y	Z
	0.988	1.561	5.124
	0.987	1.568	5.124
	0.984	1.575	5.124
	0.981	1.581	5.124
	0.977	1.587	5.124
	0.971	1.592	5.124
	0.965	1.596	5.124
	0.959	1.599	5.124
	0.952	1.600	5.124
	0.945	1.601	5.124
	0.938	1.601	5.124
	0.931	1.599	5.124
	0.924	1.596	5.124
	0.918	1.593	5.124
	0.912	1.588	5.124
	0.908	1.583	5.124
	0.904	1.577	5.124
	0.900	1.571	5.124
	0.897	1.565	5.124
	0.894	1.559	5.124
	0.890	1.553	5.124
	0.887	1.546	5.124
	0.884	1.540	5.124
	0.881	1.534	5.124
	0.877	1.528	5.124
	0.874	1.522	5.124
	0.871	1.516	5.124
	0.854	1.486	5.124
	0.837	1.456	5.124
	0.820	1.426	5.124
	0.803	1.396	5.124
	0.786	1.366	5.124
	0.769	1.336	5.124
	0.752	1.306	5.124
	0.734	1.276	5.124
	0.717	1.247	5.124
	0.699	1.217	5.124
	0.682	1.187	5.124
	0.664	1.158	5.124
	0.646	1.128	5.124
	0.628	1.099	5.124
	0.610	1.069	5.124
	0.592	1.040	5.124
	0.574	1.010	5.124
	0.556	0.981	5.124
	0.538	0.952	5.124
	0.519	0.922	5.124
	0.501	0.893	5.124

Table 2

	X	Y	Z
	0.483	0.864	5.124
	0.464	0.835	5.124
	0.445	0.806	5.124
	0.427	0.777	5.124
	0.408	0.748	5.124
	0.389	0.719	5.124
	0.370	0.690	5.124
	0.351	0.661	5.124
	0.332	0.633	5.124
	0.313	0.604	5.124
	0.294	0.575	5.124
	0.274	0.547	5.124
	0.255	0.518	5.124
	0.235	0.490	5.124
	0.215	0.462	5.124
	0.196	0.434	5.124
	0.176	0.405	5.124
	0.155	0.377	5.124
	0.135	0.349	5.124
	0.115	0.322	5.124
	0.094	0.294	5.124
	0.074	0.266	5.124
	0.053	0.239	5.124
	0.032	0.211	5.124
	0.011	0.184	5.124
	-0.011	0.157	5.124
	-0.032	0.130	5.124
	-0.054	0.104	5.124
	-0.076	0.077	5.124
	-0.099	0.051	5.124
	-0.121	0.025	5.124
	-0.144	-0.001	5.124
	-0.167	-0.027	5.124
	-0.190	-0.053	5.124
	-0.213	-0.078	5.124
	-0.237	-0.103	5.124
	-0.261	-0.128	5.124
	-0.285	-0.153	5.124
	-0.309	-0.177	5.124
	-0.334	-0.201	5.124
	-0.359	-0.225	5.124
	-0.384	-0.249	5.124
	-0.409	-0.273	5.124
	-0.434	-0.296	5.124
	-0.460	-0.319	5.124
	-0.485	-0.342	5.124
	-0.511	-0.365	5.124
	-0.537	-0.388	5.124

Table 2

	X	Y	Z
	-0.563	-0.411	5.124
	-0.590	-0.433	5.124
	-0.616	-0.455	5.124
	-0.642	-0.478	5.124
	-0.669	-0.500	5.124
	-0.695	-0.522	5.124
	-0.721	-0.544	5.124
	-0.748	-0.566	5.124
	-0.774	-0.588	5.124
	-0.801	-0.611	5.124
	-0.806	-0.615	5.124
	-0.811	-0.620	5.124
	-0.817	-0.624	5.124
	-0.822	-0.629	5.124
	-0.827	-0.633	5.124
	-0.832	-0.638	5.124
	-0.838	-0.642	5.124
	-0.843	-0.647	5.124
	-0.848	-0.651	5.124
	-0.853	-0.656	5.124
	-0.864	-0.666	5.124
	-0.874	-0.678	5.124
	-0.883	-0.690	5.124
	-0.891	-0.703	5.124
	-0.897	-0.717	5.124
	-0.902	-0.732	5.124
	-0.905	-0.747	5.124
	-0.907	-0.762	5.124
	-0.907	-0.777	5.124
	-0.906	-0.792	5.124
	-0.903	-0.807	5.124
	-0.899	-0.822	5.124
	-0.892	-0.836	5.124
	-0.885	-0.849	5.124
	-0.876	-0.861	5.124
	-0.866	-0.873	5.124
	-0.855	-0.883	5.124
	-0.842	-0.892	5.124
SECTION 8			
	-0.840	-0.909	5.274
	-0.833	-0.912	5.274
	-0.826	-0.915	5.274
	-0.818	-0.918	5.274
	-0.811	-0.920	5.274
	-0.803	-0.923	5.274
	-0.796	-0.925	5.274
	-0.788	-0.927	5.274
	-0.781	-0.929	5.274

Table 2

	X	Y	Z
	-0.773	-0.931	5.274
	-0.765	-0.932	5.274
	-0.726	-0.937	5.274
	-0.686	-0.937	5.274
	-0.647	-0.934	5.274
	-0.608	-0.928	5.274
	-0.570	-0.920	5.274
	-0.532	-0.908	5.274
	-0.495	-0.895	5.274
	-0.459	-0.879	5.274
	-0.423	-0.861	5.274
	-0.389	-0.842	5.274
	-0.355	-0.821	5.274
	-0.323	-0.798	5.274
	-0.292	-0.774	5.274
	-0.261	-0.749	5.274
	-0.232	-0.723	5.274
	-0.203	-0.696	5.274
	-0.175	-0.667	5.274
	-0.148	-0.639	5.274
	-0.122	-0.609	5.274
	-0.097	-0.579	5.274
	-0.072	-0.548	5.274
	-0.048	-0.517	5.274
	-0.025	-0.485	5.274
	-0.002	-0.453	5.274
	0.020	-0.420	5.274
	0.042	-0.387	5.274
	0.064	-0.354	5.274
	0.085	-0.321	5.274
	0.106	-0.287	5.274
	0.127	-0.254	5.274
	0.147	-0.220	5.274
	0.167	-0.186	5.274
	0.186	-0.151	5.274
	0.206	-0.117	5.274
	0.225	-0.083	5.274
	0.244	-0.048	5.274
	0.263	-0.013	5.274
	0.282	0.022	5.274
	0.300	0.056	5.274
	0.319	0.091	5.274
	0.337	0.126	5.274
	0.355	0.161	5.274
	0.373	0.197	5.274
	0.391	0.232	5.274
	0.409	0.267	5.274
	0.427	0.302	5.274

Table 2

	X	Y	Z
	0.445	0.337	5.274
	0.462	0.373	5.274
	0.480	0.408	5.274
	0.497	0.444	5.274
	0.515	0.479	5.274
	0.532	0.515	5.274
	0.549	0.550	5.274
	0.566	0.586	5.274
	0.583	0.621	5.274
	0.600	0.657	5.274
	0.617	0.693	5.274
	0.634	0.728	5.274
	0.651	0.764	5.274
	0.667	0.800	5.274
	0.684	0.836	5.274
	0.700	0.872	5.274
	0.717	0.908	5.274
	0.733	0.944	5.274
	0.749	0.980	5.274
	0.765	1.016	5.274
	0.781	1.052	5.274
	0.796	1.088	5.274
	0.812	1.125	5.274
	0.828	1.161	5.274
	0.843	1.197	5.274
	0.858	1.234	5.274
	0.873	1.270	5.274
	0.888	1.307	5.274
	0.903	1.343	5.274
	0.918	1.380	5.274
	0.932	1.417	5.274
	0.947	1.453	5.274
	0.961	1.490	5.274
	0.964	1.498	5.274
	0.967	1.505	5.274
	0.970	1.512	5.274
	0.973	1.520	5.274
	0.976	1.527	5.274
	0.978	1.534	5.274
	0.981	1.542	5.274
	0.984	1.549	5.274
	0.987	1.556	5.274
	0.990	1.564	5.274
	0.992	1.571	5.274
	0.993	1.578	5.274
	0.993	1.585	5.274
	0.991	1.592	5.274
	0.989	1.599	5.274

Table 2

	X	Y	Z
	0.985	1.606	5.274
	0.981	1.612	5.274
	0.976	1.617	5.274
	0.970	1.621	5.274
	0.963	1.624	5.274
	0.956	1.626	5.274
	0.949	1.626	5.274
	0.942	1.626	5.274
	0.934	1.624	5.274
	0.928	1.622	5.274
	0.921	1.618	5.274
	0.916	1.613	5.274
	0.911	1.608	5.274
	0.907	1.602	5.274
	0.903	1.596	5.274
	0.900	1.590	5.274
	0.897	1.584	5.274
	0.893	1.577	5.274
	0.890	1.571	5.274
	0.887	1.565	5.274
	0.883	1.559	5.274
	0.880	1.553	5.274
	0.877	1.547	5.274
	0.873	1.541	5.274
	0.856	1.510	5.274
	0.839	1.480	5.274
	0.822	1.449	5.274
	0.805	1.419	5.274
	0.788	1.388	5.274
	0.771	1.358	5.274
	0.753	1.328	5.274
	0.736	1.297	5.274
	0.718	1.267	5.274
	0.701	1.237	5.274
	0.683	1.207	5.274
	0.666	1.177	5.274
	0.648	1.147	5.274
	0.630	1.116	5.274
	0.612	1.086	5.274
	0.594	1.057	5.274
	0.576	1.027	5.274
	0.558	0.997	5.274
	0.540	0.967	5.274
	0.522	0.937	5.274
	0.503	0.907	5.274
	0.485	0.878	5.274
	0.466	0.848	5.274
	0.448	0.819	5.274

Table 2

	X	Y	Z
	0.429	0.789	5.274
	0.410	0.759	5.274
	0.392	0.730	5.274
	0.373	0.701	5.274
	0.354	0.671	5.274
	0.335	0.642	5.274
	0.315	0.613	5.274
	0.296	0.584	5.274
	0.277	0.555	5.274
	0.257	0.526	5.274
	0.237	0.497	5.274
	0.218	0.468	5.274
	0.198	0.440	5.274
	0.178	0.411	5.274
	0.157	0.383	5.274
	0.137	0.354	5.274
	0.116	0.326	5.274
	0.096	0.298	5.274
	0.075	0.270	5.274
	0.054	0.242	5.274
	0.033	0.214	5.274
	0.011	0.186	5.274
	-0.010	0.159	5.274
	-0.032	0.132	5.274
	-0.054	0.105	5.274
	-0.076	0.078	5.274
	-0.099	0.051	5.274
	-0.122	0.024	5.274
	-0.145	-0.002	5.274
	-0.168	-0.028	5.274
	-0.191	-0.054	5.274
	-0.215	-0.080	5.274
	-0.239	-0.105	5.274
	-0.263	-0.130	5.274
	-0.287	-0.155	5.274
	-0.312	-0.180	5.274
	-0.337	-0.205	5.274
	-0.362	-0.229	5.274
	-0.387	-0.253	5.274
	-0.412	-0.277	5.274
	-0.438	-0.301	5.274
	-0.464	-0.325	5.274
	-0.490	-0.348	5.274
	-0.516	-0.371	5.274
	-0.542	-0.394	5.274
	-0.568	-0.417	5.274
	-0.595	-0.440	5.274
	-0.622	-0.462	5.274

Table 2

	X	Y	Z
	-0.648	-0.485	5.274
	-0.675	-0.507	5.274
	-0.702	-0.530	5.274
	-0.729	-0.552	5.274
	-0.756	-0.574	5.274
	-0.783	-0.596	5.274
	-0.810	-0.619	5.274
	-0.815	-0.623	5.274
	-0.820	-0.628	5.274
	-0.826	-0.632	5.274
	-0.831	-0.637	5.274
	-0.836	-0.641	5.274
	-0.842	-0.645	5.274
	-0.847	-0.650	5.274
	-0.853	-0.654	5.274
	-0.858	-0.659	5.274
	-0.863	-0.663	5.274
	-0.875	-0.674	5.274
	-0.885	-0.685	5.274
	-0.894	-0.698	5.274
	-0.902	-0.711	5.274
	-0.908	-0.725	5.274
	-0.913	-0.740	5.274
	-0.916	-0.755	5.274
	-0.918	-0.770	5.274
	-0.919	-0.785	5.274
	-0.918	-0.800	5.274
	-0.915	-0.816	5.274
	-0.910	-0.830	5.274
	-0.904	-0.844	5.274
	-0.897	-0.858	5.274
	-0.888	-0.870	5.274
	-0.878	-0.882	5.274
	-0.866	-0.892	5.274
	-0.854	-0.901	5.274
SECTION 9			
	-0.852	-0.918	5.424
	-0.845	-0.921	5.424
	-0.837	-0.924	5.424
	-0.830	-0.927	5.424
	-0.822	-0.930	5.424
	-0.815	-0.932	5.424
	-0.807	-0.935	5.424
	-0.799	-0.937	5.424
	-0.791	-0.938	5.424
	-0.784	-0.940	5.424
	-0.776	-0.942	5.424
	-0.736	-0.946	5.424

Table 2

	X	Y	Z
	-0.696	-0.947	5.424
	-0.656	-0.944	5.424
	-0.617	-0.938	5.424
	-0.578	-0.929	5.424
	-0.539	-0.917	5.424
	-0.502	-0.904	5.424
	-0.465	-0.888	5.424
	-0.429	-0.871	5.424
	-0.394	-0.851	5.424
	-0.360	-0.830	5.424
	-0.327	-0.808	5.424
	-0.295	-0.784	5.424
	-0.264	-0.759	5.424
	-0.233	-0.732	5.424
	-0.204	-0.705	5.424
	-0.176	-0.677	5.424
	-0.148	-0.648	5.424
	-0.121	-0.618	5.424
	-0.095	-0.588	5.424
	-0.070	-0.557	5.424
	-0.046	-0.525	5.424
	-0.022	-0.493	5.424
	0.002	-0.461	5.424
	0.024	-0.428	5.424
	0.047	-0.395	5.424
	0.069	-0.361	5.424
	0.090	-0.327	5.424
	0.111	-0.293	5.424
	0.132	-0.259	5.424
	0.152	-0.225	5.424
	0.173	-0.190	5.424
	0.192	-0.155	5.424
	0.212	-0.120	5.424
	0.231	-0.085	5.424
	0.250	-0.050	5.424
	0.269	-0.015	5.424
	0.288	0.020	5.424
	0.306	0.056	5.424
	0.325	0.091	5.424
	0.343	0.127	5.424
	0.361	0.163	5.424
	0.379	0.198	5.424
	0.397	0.234	5.424
	0.415	0.270	5.424
	0.432	0.306	5.424
	0.450	0.342	5.424
	0.467	0.378	5.424
	0.485	0.414	5.424

Table 2

	X	Y	Z
	0.502	0.450	5.424
	0.519	0.486	5.424
	0.537	0.522	5.424
	0.554	0.558	5.424
	0.571	0.595	5.424
	0.588	0.631	5.424
	0.605	0.667	5.424
	0.621	0.703	5.424
	0.638	0.740	5.424
	0.655	0.776	5.424
	0.671	0.813	5.424
	0.687	0.849	5.424
	0.704	0.886	5.424
	0.720	0.922	5.424
	0.736	0.959	5.424
	0.752	0.995	5.424
	0.768	1.032	5.424
	0.784	1.069	5.424
	0.799	1.106	5.424
	0.815	1.143	5.424
	0.831	1.179	5.424
	0.846	1.216	5.424
	0.861	1.253	5.424
	0.876	1.290	5.424
	0.891	1.327	5.424
	0.906	1.365	5.424
	0.921	1.402	5.424
	0.936	1.439	5.424
	0.951	1.476	5.424
	0.965	1.513	5.424
	0.968	1.521	5.424
	0.971	1.528	5.424
	0.974	1.536	5.424
	0.977	1.543	5.424
	0.980	1.551	5.424
	0.983	1.558	5.424
	0.986	1.565	5.424
	0.989	1.573	5.424
	0.992	1.580	5.424
	0.994	1.588	5.424
	0.997	1.595	5.424
	0.998	1.602	5.424
	0.998	1.610	5.424
	0.996	1.617	5.424
	0.994	1.624	5.424
	0.990	1.631	5.424
	0.986	1.637	5.424
	0.980	1.642	5.424

Table 2

	X	Y	Z
	0.974	1.646	5.424
	0.967	1.649	5.424
	0.960	1.651	5.424
	0.953	1.652	5.424
	0.945	1.651	5.424
	0.938	1.650	5.424
	0.931	1.647	5.424
	0.925	1.643	5.424
	0.919	1.639	5.424
	0.914	1.633	5.424
	0.910	1.627	5.424
	0.906	1.621	5.424
	0.903	1.615	5.424
	0.900	1.608	5.424
	0.896	1.602	5.424
	0.893	1.596	5.424
	0.889	1.590	5.424
	0.886	1.584	5.424
	0.883	1.578	5.424
	0.879	1.571	5.424
	0.876	1.565	5.424
	0.859	1.534	5.424
	0.841	1.503	5.424
	0.824	1.472	5.424
	0.807	1.442	5.424
	0.790	1.411	5.424
	0.772	1.380	5.424
	0.755	1.349	5.424
	0.737	1.318	5.424
	0.720	1.288	5.424
	0.702	1.257	5.424
	0.685	1.226	5.424
	0.667	1.196	5.424
	0.649	1.165	5.424
	0.632	1.134	5.424
	0.614	1.104	5.424
	0.596	1.073	5.424
	0.578	1.043	5.424
	0.560	1.013	5.424
	0.542	0.982	5.424
	0.524	0.952	5.424
	0.505	0.922	5.424
	0.487	0.891	5.424
	0.469	0.861	5.424
	0.450	0.831	5.424
	0.431	0.801	5.424
	0.413	0.771	5.424
	0.394	0.741	5.424

Table 2

	X	Y	Z
	0.375	0.711	5.424
	0.356	0.681	5.424
	0.337	0.652	5.424
	0.318	0.622	5.424
	0.298	0.592	5.424
	0.279	0.563	5.424
	0.259	0.533	5.424
	0.240	0.504	5.424
	0.220	0.475	5.424
	0.200	0.446	5.424
	0.179	0.417	5.424
	0.159	0.388	5.424
	0.139	0.359	5.424
	0.118	0.330	5.424
	0.097	0.302	5.424
	0.076	0.273	5.424
	0.055	0.245	5.424
	0.034	0.217	5.424
	0.012	0.189	5.424
	-0.010	0.161	5.424
	-0.032	0.133	5.424
	-0.054	0.106	5.424
	-0.077	0.078	5.424
	-0.099	0.051	5.424
	-0.122	0.024	5.424
	-0.145	-0.002	5.424
	-0.169	-0.029	5.424
	-0.192	-0.055	5.424
	-0.216	-0.081	5.424
	-0.240	-0.107	5.424
	-0.265	-0.133	5.424
	-0.289	-0.158	5.424
	-0.314	-0.183	5.424
	-0.339	-0.208	5.424
	-0.365	-0.233	5.424
	-0.390	-0.257	5.424
	-0.416	-0.282	5.424
	-0.442	-0.306	5.424
	-0.468	-0.330	5.424
	-0.494	-0.353	5.424
	-0.520	-0.377	5.424
	-0.547	-0.400	5.424
	-0.573	-0.423	5.424
	-0.600	-0.446	5.424
	-0.627	-0.469	5.424
	-0.654	-0.492	5.424
	-0.682	-0.515	5.424
	-0.709	-0.537	5.424

Table 2

	X	Y	Z
	-0.736	-0.560	5.424
	-0.763	-0.582	5.424
	-0.791	-0.604	5.424
	-0.818	-0.627	5.424
	-0.824	-0.631	5.424
	-0.829	-0.636	5.424
	-0.835	-0.640	5.424
	-0.840	-0.644	5.424
	-0.846	-0.649	5.424
	-0.851	-0.653	5.424
	-0.857	-0.658	5.424
	-0.862	-0.662	5.424
	-0.868	-0.667	5.424
	-0.873	-0.671	5.424
	-0.885	-0.682	5.424
	-0.895	-0.693	5.424
	-0.905	-0.705	5.424
	-0.912	-0.719	5.424
	-0.919	-0.733	5.424
	-0.924	-0.747	5.424
	-0.928	-0.762	5.424
	-0.930	-0.778	5.424
	-0.930	-0.793	5.424
	-0.929	-0.809	5.424
	-0.926	-0.824	5.424
	-0.922	-0.839	5.424
	-0.916	-0.853	5.424
	-0.908	-0.866	5.424
	-0.899	-0.879	5.424
	-0.889	-0.891	5.424
	-0.878	-0.901	5.424
	-0.865	-0.910	5.424
SECTION 10			
	-0.863	-0.927	5.574
	-0.856	-0.931	5.574
	-0.849	-0.934	5.574
	-0.841	-0.937	5.574
	-0.833	-0.939	5.574
	-0.826	-0.942	5.574
	-0.818	-0.944	5.574
	-0.810	-0.946	5.574
	-0.802	-0.948	5.574
	-0.794	-0.950	5.574
	-0.786	-0.951	5.574
	-0.746	-0.956	5.574
	-0.705	-0.956	5.574
	-0.665	-0.953	5.574
	-0.625	-0.947	5.574

Table 2

	X	Y	Z
	-0.586	-0.938	5.574
	-0.547	-0.927	5.574
	-0.508	-0.913	5.574
	-0.471	-0.897	5.574
	-0.435	-0.880	5.574
	-0.399	-0.860	5.574
	-0.364	-0.839	5.574
	-0.331	-0.817	5.574
	-0.298	-0.793	5.574
	-0.266	-0.768	5.574
	-0.235	-0.742	5.574
	-0.205	-0.715	5.574
	-0.176	-0.686	5.574
	-0.148	-0.657	5.574
	-0.121	-0.627	5.574
	-0.094	-0.597	5.574
	-0.068	-0.566	5.574
	-0.043	-0.534	5.574
	-0.019	-0.501	5.574
	0.005	-0.469	5.574
	0.029	-0.435	5.574
	0.051	-0.402	5.574
	0.073	-0.368	5.574
	0.095	-0.334	5.574
	0.117	-0.299	5.574
	0.137	-0.265	5.574
	0.158	-0.230	5.574
	0.178	-0.195	5.574
	0.198	-0.159	5.574
	0.218	-0.124	5.574
	0.237	-0.088	5.574
	0.256	-0.053	5.574
	0.275	-0.017	5.574
	0.294	0.019	5.574
	0.312	0.055	5.574
	0.331	0.091	5.574
	0.349	0.128	5.574
	0.367	0.164	5.574
	0.385	0.200	5.574
	0.403	0.237	5.574
	0.420	0.273	5.574
	0.438	0.310	5.574
	0.455	0.346	5.574
	0.473	0.383	5.574
	0.490	0.420	5.574
	0.507	0.456	5.574
	0.524	0.493	5.574
	0.541	0.530	5.574

Table 2

	X	Y	Z
	0.558	0.567	5.574
	0.575	0.603	5.574
	0.592	0.640	5.574
	0.609	0.677	5.574
	0.625	0.714	5.574
	0.642	0.751	5.574
	0.658	0.788	5.574
	0.675	0.825	5.574
	0.691	0.862	5.574
	0.707	0.900	5.574
	0.723	0.937	5.574
	0.739	0.974	5.574
	0.755	1.011	5.574
	0.771	1.048	5.574
	0.787	1.086	5.574
	0.803	1.123	5.574
	0.818	1.161	5.574
	0.834	1.198	5.574
	0.849	1.236	5.574
	0.864	1.273	5.574
	0.880	1.311	5.574
	0.895	1.348	5.574
	0.910	1.386	5.574
	0.925	1.423	5.574
	0.940	1.461	5.574
	0.955	1.499	5.574
	0.969	1.537	5.574
	0.972	1.544	5.574
	0.975	1.552	5.574
	0.978	1.559	5.574
	0.981	1.567	5.574
	0.984	1.574	5.574
	0.987	1.582	5.574
	0.990	1.589	5.574
	0.993	1.597	5.574
	0.996	1.604	5.574
	0.999	1.612	5.574
	1.001	1.619	5.574
	1.002	1.627	5.574
	1.002	1.634	5.574
	1.001	1.642	5.574
	0.998	1.649	5.574
	0.995	1.655	5.574
	0.990	1.662	5.574
	0.985	1.667	5.574
	0.978	1.671	5.574
	0.972	1.674	5.574
	0.964	1.676	5.574

Table 2

	X	Y	Z
	0.957	1.677	5.574
	0.949	1.677	5.574
	0.942	1.675	5.574
	0.935	1.673	5.574
	0.928	1.669	5.574
	0.922	1.664	5.574
	0.917	1.659	5.574
	0.913	1.652	5.574
	0.910	1.646	5.574
	0.906	1.640	5.574
	0.903	1.633	5.574
	0.899	1.627	5.574
	0.896	1.621	5.574
	0.892	1.615	5.574
	0.889	1.608	5.574
	0.885	1.602	5.574
	0.882	1.596	5.574
	0.878	1.590	5.574
	0.861	1.558	5.574
	0.844	1.527	5.574
	0.826	1.496	5.574
	0.809	1.464	5.574
	0.791	1.433	5.574
	0.774	1.402	5.574
	0.757	1.371	5.574
	0.739	1.339	5.574
	0.722	1.308	5.574
	0.704	1.277	5.574
	0.686	1.246	5.574
	0.669	1.215	5.574
	0.651	1.184	5.574
	0.633	1.152	5.574
	0.616	1.121	5.574
	0.598	1.090	5.574
	0.580	1.059	5.574
	0.562	1.028	5.574
	0.544	0.998	5.574
	0.526	0.967	5.574
	0.507	0.936	5.574
	0.489	0.905	5.574
	0.471	0.874	5.574
	0.452	0.844	5.574
	0.434	0.813	5.574
	0.415	0.783	5.574
	0.396	0.752	5.574
	0.377	0.722	5.574
	0.358	0.691	5.574
	0.339	0.661	5.574

Table 2

	X	Y	Z
	0.320	0.631	5.574
	0.301	0.601	5.574
	0.281	0.571	5.574
	0.262	0.541	5.574
	0.242	0.511	5.574
	0.222	0.481	5.574
	0.202	0.452	5.574
	0.181	0.422	5.574
	0.161	0.393	5.574
	0.140	0.364	5.574
	0.120	0.335	5.574
	0.099	0.306	5.574
	0.077	0.277	5.574
	0.056	0.248	5.574
	0.035	0.219	5.574
	0.013	0.191	5.574
	-0.009	0.163	5.574
	-0.031	0.135	5.574
	-0.054	0.107	5.574
	-0.077	0.079	5.574
	-0.100	0.052	5.574
	-0.123	0.024	5.574
	-0.146	-0.003	5.574
	-0.170	-0.029	5.574
	-0.194	-0.056	5.574
	-0.218	-0.083	5.574
	-0.242	-0.109	5.574
	-0.267	-0.135	5.574
	-0.292	-0.161	5.574
	-0.317	-0.186	5.574
	-0.342	-0.211	5.574
	-0.367	-0.237	5.574
	-0.393	-0.261	5.574
	-0.419	-0.286	5.574
	-0.445	-0.311	5.574
	-0.472	-0.335	5.574
	-0.498	-0.359	5.574
	-0.525	-0.383	5.574
	-0.552	-0.406	5.574
	-0.579	-0.430	5.574
	-0.606	-0.453	5.574
	-0.633	-0.476	5.574
	-0.660	-0.499	5.574
	-0.688	-0.522	5.574
	-0.716	-0.545	5.574
	-0.743	-0.568	5.574
	-0.771	-0.590	5.574
	-0.799	-0.612	5.574

Table 2

	X	Y	Z
	-0.827	-0.635	5.574
	-0.833	-0.639	5.574
	-0.838	-0.644	5.574
	-0.844	-0.648	5.574
	-0.850	-0.652	5.574
	-0.855	-0.657	5.574
	-0.861	-0.661	5.574
	-0.866	-0.666	5.574
	-0.872	-0.670	5.574
	-0.878	-0.675	5.574
	-0.883	-0.679	5.574
	-0.895	-0.689	5.574
	-0.906	-0.701	5.574
	-0.915	-0.713	5.574
	-0.923	-0.726	5.574
	-0.930	-0.740	5.574
	-0.935	-0.755	5.574
	-0.939	-0.770	5.574
	-0.941	-0.786	5.574
	-0.942	-0.801	5.574
	-0.941	-0.817	5.574
	-0.938	-0.832	5.574
	-0.934	-0.847	5.574
	-0.928	-0.862	5.574
	-0.920	-0.875	5.574
	-0.911	-0.888	5.574
	-0.901	-0.900	5.574
	-0.890	-0.910	5.574
	-0.877	-0.920	5.574
SECTION 11			
	-0.875	-0.937	5.724
	-0.867	-0.940	5.724
	-0.860	-0.943	5.724
	-0.852	-0.946	5.724
	-0.845	-0.949	5.724
	-0.837	-0.951	5.724
	-0.829	-0.954	5.724
	-0.821	-0.956	5.724
	-0.813	-0.958	5.724
	-0.805	-0.959	5.724
	-0.797	-0.961	5.724
	-0.756	-0.965	5.724
	-0.715	-0.966	5.724
	-0.674	-0.963	5.724
	-0.634	-0.956	5.724
	-0.593	-0.947	5.724
	-0.554	-0.936	5.724
	-0.515	-0.922	5.724

Table 2

	X	Y	Z
	-0.477	-0.907	5.724
	-0.440	-0.889	5.724
	-0.404	-0.870	5.724
	-0.369	-0.849	5.724
	-0.334	-0.826	5.724
	-0.301	-0.803	5.724
	-0.268	-0.778	5.724
	-0.237	-0.751	5.724
	-0.206	-0.724	5.724
	-0.177	-0.696	5.724
	-0.148	-0.667	5.724
	-0.120	-0.637	5.724
	-0.092	-0.606	5.724
	-0.066	-0.574	5.724
	-0.040	-0.542	5.724
	-0.015	-0.510	5.724
	0.009	-0.477	5.724
	0.033	-0.443	5.724
	0.056	-0.409	5.724
	0.078	-0.375	5.724
	0.100	-0.340	5.724
	0.122	-0.305	5.724
	0.143	-0.270	5.724
	0.164	-0.235	5.724
	0.184	-0.199	5.724
	0.204	-0.163	5.724
	0.224	-0.127	5.724
	0.243	-0.091	5.724
	0.262	-0.055	5.724
	0.281	-0.018	5.724
	0.300	0.018	5.724
	0.318	0.055	5.724
	0.337	0.091	5.724
	0.355	0.128	5.724
	0.373	0.165	5.724
	0.391	0.202	5.724
	0.408	0.239	5.724
	0.426	0.276	5.724
	0.443	0.314	5.724
	0.461	0.351	5.724
	0.478	0.388	5.724
	0.495	0.425	5.724
	0.512	0.463	5.724
	0.529	0.500	5.724
	0.546	0.537	5.724
	0.563	0.575	5.724
	0.579	0.612	5.724
	0.596	0.650	5.724

Table 2

	X	Y	Z
	0.613	0.687	5.724
	0.629	0.725	5.724
	0.645	0.763	5.724
	0.662	0.800	5.724
	0.678	0.838	5.724
	0.694	0.876	5.724
	0.710	0.913	5.724
	0.726	0.951	5.724
	0.742	0.989	5.724
	0.758	1.027	5.724
	0.774	1.065	5.724
	0.790	1.103	5.724
	0.805	1.141	5.724
	0.821	1.179	5.724
	0.837	1.217	5.724
	0.852	1.255	5.724
	0.867	1.293	5.724
	0.883	1.331	5.724
	0.898	1.369	5.724
	0.913	1.407	5.724
	0.928	1.445	5.724
	0.943	1.483	5.724
	0.958	1.521	5.724
	0.974	1.560	5.724
	0.977	1.567	5.724
	0.980	1.575	5.724
	0.983	1.583	5.724
	0.986	1.590	5.724
	0.989	1.598	5.724
	0.992	1.606	5.724
	0.995	1.613	5.724
	0.998	1.621	5.724
	1.001	1.628	5.724
	1.004	1.636	5.724
	1.006	1.643	5.724
	1.007	1.651	5.724
	1.007	1.659	5.724
	1.005	1.666	5.724
	1.003	1.674	5.724
	0.999	1.680	5.724
	0.995	1.686	5.724
	0.989	1.692	5.724
	0.983	1.696	5.724
	0.976	1.700	5.724
	0.968	1.702	5.724
	0.961	1.702	5.724
	0.953	1.702	5.724
	0.946	1.701	5.724

Table 2

	X	Y	Z
	0.938	1.698	5.724
	0.932	1.694	5.724
	0.926	1.689	5.724
	0.920	1.684	5.724
	0.916	1.677	5.724
	0.913	1.671	5.724
	0.909	1.665	5.724
	0.906	1.658	5.724
	0.902	1.652	5.724
	0.898	1.646	5.724
	0.895	1.639	5.724
	0.891	1.633	5.724
	0.888	1.627	5.724
	0.884	1.620	5.724
	0.881	1.614	5.724
	0.863	1.582	5.724
	0.846	1.551	5.724
	0.828	1.519	5.724
	0.811	1.487	5.724
	0.793	1.456	5.724
	0.776	1.424	5.724
	0.758	1.392	5.724
	0.741	1.360	5.724
	0.723	1.329	5.724
	0.706	1.297	5.724
	0.688	1.265	5.724
	0.670	1.234	5.724
	0.653	1.202	5.724
	0.635	1.170	5.724
	0.617	1.139	5.724
	0.600	1.107	5.724
	0.582	1.076	5.724
	0.564	1.044	5.724
	0.546	1.013	5.724
	0.528	0.981	5.724
	0.510	0.950	5.724
	0.491	0.919	5.724
	0.473	0.888	5.724
	0.455	0.856	5.724
	0.436	0.825	5.724
	0.417	0.794	5.724
	0.399	0.763	5.724
	0.380	0.732	5.724
	0.361	0.701	5.724
	0.342	0.671	5.724
	0.322	0.640	5.724
	0.303	0.609	5.724
	0.284	0.579	5.724

Table 2

	X	Y	Z
	0.264	0.549	5.724
	0.244	0.518	5.724
	0.224	0.488	5.724
	0.204	0.458	5.724
	0.183	0.428	5.724
	0.163	0.398	5.724
	0.142	0.368	5.724
	0.121	0.339	5.724
	0.100	0.309	5.724
	0.079	0.280	5.724
	0.057	0.251	5.724
	0.035	0.222	5.724
	0.013	0.193	5.724
	-0.009	0.165	5.724
	-0.031	0.136	5.724
	-0.054	0.108	5.724
	-0.077	0.080	5.724
	-0.100	0.052	5.724
	-0.123	0.024	5.724
	-0.147	-0.003	5.724
	-0.171	-0.030	5.724
	-0.195	-0.057	5.724
	-0.219	-0.084	5.724
	-0.244	-0.111	5.724
	-0.269	-0.137	5.724
	-0.294	-0.163	5.724
	-0.319	-0.189	5.724
	-0.345	-0.215	5.724
	-0.370	-0.240	5.724
	-0.396	-0.265	5.724
	-0.423	-0.291	5.724
	-0.449	-0.315	5.724
	-0.475	-0.340	5.724
	-0.502	-0.364	5.724
	-0.529	-0.389	5.724
	-0.556	-0.413	5.724
	-0.584	-0.436	5.724
	-0.611	-0.460	5.724
	-0.639	-0.483	5.724
	-0.667	-0.507	5.724
	-0.694	-0.530	5.724
	-0.722	-0.553	5.724
	-0.751	-0.575	5.724
	-0.779	-0.598	5.724
	-0.807	-0.620	5.724
	-0.836	-0.643	5.724
	-0.842	-0.647	5.724
	-0.847	-0.652	5.724

Table 2

	X	Y	Z
	-0.853	-0.656	5.724
	-0.859	-0.660	5.724
	-0.865	-0.665	5.724
	-0.870	-0.669	5.724
	-0.876	-0.674	5.724
	-0.882	-0.678	5.724
	-0.888	-0.683	5.724
	-0.893	-0.687	5.724
	-0.905	-0.697	5.724
	-0.916	-0.708	5.724
	-0.926	-0.721	5.724
	-0.934	-0.734	5.724
	-0.941	-0.748	5.724
	-0.947	-0.763	5.724
	-0.951	-0.778	5.724
	-0.953	-0.794	5.724
	-0.954	-0.809	5.724
	-0.953	-0.825	5.724
	-0.950	-0.840	5.724
	-0.945	-0.856	5.724
	-0.939	-0.870	5.724
	-0.932	-0.884	5.724
	-0.923	-0.897	5.724
	-0.913	-0.909	5.724
	-0.901	-0.919	5.724
	-0.889	-0.929	5.724
SECTION 12			
	-0.887	-0.946	5.874
	-0.879	-0.949	5.874
	-0.871	-0.953	5.874
	-0.864	-0.956	5.874
	-0.856	-0.958	5.874
	-0.848	-0.961	5.874
	-0.840	-0.963	5.874
	-0.832	-0.965	5.874
	-0.824	-0.967	5.874
	-0.816	-0.969	5.874
	-0.807	-0.970	5.874
	-0.766	-0.975	5.874
	-0.724	-0.975	5.874
	-0.683	-0.972	5.874
	-0.642	-0.966	5.874
	-0.601	-0.957	5.874
	-0.561	-0.945	5.874
	-0.522	-0.932	5.874
	-0.484	-0.916	5.874
	-0.446	-0.898	5.874
	-0.409	-0.879	5.874

Table 2

	X	Y	Z
	-0.373	-0.858	5.874
	-0.338	-0.836	5.874
	-0.304	-0.812	5.874
	-0.271	-0.787	5.874
	-0.239	-0.761	5.874
	-0.207	-0.734	5.874
	-0.177	-0.705	5.874
	-0.147	-0.676	5.874
	-0.119	-0.646	5.874
	-0.091	-0.615	5.874
	-0.064	-0.583	5.874
	-0.038	-0.551	5.874
	-0.012	-0.518	5.874
	0.012	-0.485	5.874
	0.037	-0.451	5.874
	0.060	-0.417	5.874
	0.083	-0.382	5.874
	0.105	-0.347	5.874
	0.127	-0.311	5.874
	0.148	-0.276	5.874
	0.169	-0.240	5.874
	0.190	-0.204	5.874
	0.210	-0.167	5.874
	0.230	-0.131	5.874
	0.249	-0.094	5.874
	0.268	-0.057	5.874
	0.287	-0.020	5.874
	0.306	0.017	5.874
	0.324	0.054	5.874
	0.343	0.092	5.874
	0.361	0.129	5.874
	0.379	0.167	5.874
	0.396	0.204	5.874
	0.414	0.242	5.874
	0.431	0.280	5.874
	0.449	0.317	5.874
	0.466	0.355	5.874
	0.483	0.393	5.874
	0.500	0.431	5.874
	0.517	0.469	5.874
	0.534	0.507	5.874
	0.550	0.545	5.874
	0.567	0.583	5.874
	0.584	0.621	5.874
	0.600	0.659	5.874
	0.617	0.698	5.874
	0.633	0.736	5.874
	0.649	0.774	5.874

Table 2

	X	Y	Z
	0.665	0.812	5.874
	0.682	0.851	5.874
	0.698	0.889	5.874
	0.714	0.927	5.874
	0.730	0.966	5.874
	0.746	1.004	5.874
	0.761	1.043	5.874
	0.777	1.081	5.874
	0.793	1.120	5.874
	0.808	1.158	5.874
	0.824	1.197	5.874
	0.840	1.235	5.874
	0.855	1.274	5.874
	0.870	1.312	5.874
	0.886	1.351	5.874
	0.901	1.390	5.874
	0.917	1.428	5.874
	0.932	1.467	5.874
	0.947	1.506	5.874
	0.962	1.544	5.874
	0.978	1.583	5.874
	0.981	1.591	5.874
	0.984	1.598	5.874
	0.987	1.606	5.874
	0.990	1.614	5.874
	0.993	1.622	5.874
	0.996	1.629	5.874
	0.999	1.637	5.874
	1.002	1.645	5.874
	1.005	1.652	5.874
	1.008	1.660	5.874
	1.011	1.668	5.874
	1.012	1.675	5.874
	1.012	1.683	5.874
	1.010	1.691	5.874
	1.007	1.698	5.874
	1.004	1.705	5.874
	0.999	1.711	5.874
	0.994	1.717	5.874
	0.987	1.721	5.874
	0.980	1.725	5.874
	0.973	1.727	5.874
	0.965	1.728	5.874
	0.957	1.728	5.874
	0.949	1.726	5.874
	0.942	1.723	5.874
	0.935	1.720	5.874
	0.929	1.715	5.874

Table 2

	X	Y	Z
	0.924	1.709	5.874
	0.919	1.702	5.874
	0.916	1.696	5.874
	0.912	1.690	5.874
	0.908	1.683	5.874
	0.905	1.677	5.874
	0.901	1.670	5.874
	0.898	1.664	5.874
	0.894	1.658	5.874
	0.891	1.651	5.874
	0.887	1.645	5.874
	0.883	1.638	5.874
	0.866	1.606	5.874
	0.848	1.574	5.874
	0.830	1.542	5.874
	0.813	1.510	5.874
	0.795	1.478	5.874
	0.777	1.446	5.874
	0.760	1.414	5.874
	0.742	1.381	5.874
	0.725	1.349	5.874
	0.707	1.317	5.874
	0.690	1.285	5.874
	0.672	1.253	5.874
	0.654	1.221	5.874
	0.637	1.188	5.874
	0.619	1.156	5.874
	0.601	1.124	5.874
	0.584	1.092	5.874
	0.566	1.060	5.874
	0.548	1.028	5.874
	0.530	0.996	5.874
	0.512	0.964	5.874
	0.494	0.933	5.874
	0.475	0.901	5.874
	0.457	0.869	5.874
	0.438	0.837	5.874
	0.420	0.806	5.874
	0.401	0.774	5.874
	0.382	0.743	5.874
	0.363	0.712	5.874
	0.344	0.680	5.874
	0.325	0.649	5.874
	0.305	0.618	5.874
	0.286	0.587	5.874
	0.266	0.556	5.874
	0.246	0.525	5.874
	0.226	0.495	5.874

Table 2

	X	Y	Z
	0.206	0.464	5.874
	0.185	0.434	5.874
	0.165	0.403	5.874
	0.144	0.373	5.874
	0.123	0.343	5.874
	0.102	0.313	5.874
	0.080	0.284	5.874
	0.058	0.254	5.874
	0.036	0.225	5.874
	0.014	0.196	5.874
	-0.008	0.167	5.874
	-0.031	0.138	5.874
	-0.054	0.109	5.874
	-0.077	0.081	5.874
	-0.100	0.053	5.874
	-0.124	0.024	5.874
	-0.148	-0.003	5.874
	-0.172	-0.031	5.874
	-0.196	-0.058	5.874
	-0.221	-0.086	5.874
	-0.246	-0.112	5.874
	-0.271	-0.139	5.874
	-0.296	-0.166	5.874
	-0.322	-0.192	5.874
	-0.347	-0.218	5.874
	-0.373	-0.244	5.874
	-0.400	-0.270	5.874
	-0.426	-0.295	5.874
	-0.453	-0.320	5.874
	-0.479	-0.345	5.874
	-0.506	-0.370	5.874
	-0.534	-0.394	5.874
	-0.561	-0.419	5.874
	-0.589	-0.443	5.874
	-0.617	-0.467	5.874
	-0.644	-0.490	5.874
	-0.673	-0.514	5.874
	-0.701	-0.537	5.874
	-0.729	-0.560	5.874
	-0.758	-0.583	5.874
	-0.787	-0.606	5.874
	-0.816	-0.628	5.874
	-0.845	-0.651	5.874
	-0.851	-0.655	5.874
	-0.856	-0.660	5.874
	-0.862	-0.664	5.874
	-0.868	-0.668	5.874
	-0.874	-0.673	5.874

Table 2

	X	Y	Z
	-0.880	-0.677	5.874
	-0.886	-0.682	5.874
	-0.892	-0.686	5.874
	-0.898	-0.690	5.874
	-0.903	-0.695	5.874
	-0.916	-0.705	5.874
	-0.927	-0.716	5.874
	-0.937	-0.728	5.874
	-0.945	-0.742	5.874
	-0.952	-0.756	5.874
	-0.958	-0.771	5.874
	-0.962	-0.786	5.874
	-0.965	-0.802	5.874
	-0.965	-0.817	5.874
	-0.964	-0.833	5.874
	-0.962	-0.849	5.874
	-0.957	-0.864	5.874
	-0.951	-0.879	5.874
	-0.944	-0.893	5.874
	-0.935	-0.906	5.874
	-0.924	-0.918	5.874
	-0.913	-0.929	5.874
	-0.900	-0.938	5.874
SECTION 13			
	-0.898	-0.955	6.024
	-0.890	-0.959	6.024
	-0.883	-0.962	6.024
	-0.875	-0.965	6.024
	-0.867	-0.968	6.024
	-0.859	-0.970	6.024
	-0.851	-0.973	6.024
	-0.843	-0.975	6.024
	-0.834	-0.977	6.024
	-0.826	-0.978	6.024
	-0.818	-0.980	6.024
	-0.776	-0.984	6.024
	-0.734	-0.985	6.024
	-0.692	-0.981	6.024
	-0.650	-0.975	6.024
	-0.609	-0.966	6.024
	-0.569	-0.954	6.024
	-0.529	-0.941	6.024
	-0.490	-0.925	6.024
	-0.452	-0.908	6.024
	-0.414	-0.889	6.024
	-0.378	-0.868	6.024
	-0.342	-0.845	6.024
	-0.307	-0.822	6.024

Table 2

	X	Y	Z
	-0.273	-0.797	6.024
	-0.240	-0.770	6.024
	-0.208	-0.743	6.024
	-0.177	-0.715	6.024
	-0.147	-0.685	6.024
	-0.118	-0.655	6.024
	-0.089	-0.624	6.024
	-0.062	-0.592	6.024
	-0.035	-0.560	6.024
	-0.009	-0.527	6.024
	0.016	-0.493	6.024
	0.041	-0.459	6.024
	0.064	-0.424	6.024
	0.088	-0.389	6.024
	0.110	-0.353	6.024
	0.132	-0.317	6.024
	0.154	-0.281	6.024
	0.175	-0.245	6.024
	0.196	-0.208	6.024
	0.216	-0.171	6.024
	0.236	-0.134	6.024
	0.255	-0.097	6.024
	0.274	-0.059	6.024
	0.293	-0.022	6.024
	0.312	0.016	6.024
	0.330	0.054	6.024
	0.349	0.092	6.024
	0.367	0.130	6.024
	0.384	0.168	6.024
	0.402	0.206	6.024
	0.419	0.244	6.024
	0.437	0.283	6.024
	0.454	0.321	6.024
	0.471	0.360	6.024
	0.488	0.398	6.024
	0.505	0.437	6.024
	0.522	0.475	6.024
	0.538	0.514	6.024
	0.555	0.553	6.024
	0.571	0.591	6.024
	0.588	0.630	6.024
	0.604	0.669	6.024
	0.621	0.708	6.024
	0.637	0.747	6.024
	0.653	0.786	6.024
	0.669	0.824	6.024
	0.685	0.863	6.024
	0.701	0.902	6.024

Table 2

	X	Y	Z
	0.717	0.941	6.024
	0.733	0.980	6.024
	0.749	1.019	6.024
	0.764	1.058	6.024
	0.780	1.097	6.024
	0.796	1.136	6.024
	0.811	1.175	6.024
	0.827	1.215	6.024
	0.843	1.254	6.024
	0.858	1.293	6.024
	0.874	1.332	6.024
	0.889	1.371	6.024
	0.904	1.410	6.024
	0.920	1.449	6.024
	0.935	1.489	6.024
	0.951	1.528	6.024
	0.966	1.567	6.024
	0.982	1.606	6.024
	0.985	1.614	6.024
	0.988	1.622	6.024
	0.991	1.629	6.024
	0.994	1.637	6.024
	0.997	1.645	6.024
	1.000	1.653	6.024
	1.003	1.661	6.024
	1.007	1.669	6.024
	1.010	1.676	6.024
	1.013	1.684	6.024
	1.015	1.692	6.024
	1.016	1.700	6.024
	1.016	1.708	6.024
	1.015	1.715	6.024
	1.012	1.723	6.024
	1.008	1.730	6.024
	1.004	1.736	6.024
	0.998	1.742	6.024
	0.991	1.747	6.024
	0.984	1.750	6.024
	0.977	1.752	6.024
	0.969	1.753	6.024
	0.961	1.753	6.024
	0.953	1.751	6.024
	0.945	1.749	6.024
	0.938	1.745	6.024
	0.932	1.740	6.024
	0.927	1.734	6.024
	0.922	1.728	6.024
	0.919	1.721	6.024

Table 2

	X	Y	Z
	0.915	1.715	6.024
	0.911	1.708	6.024
	0.908	1.702	6.024
	0.904	1.695	6.024
	0.900	1.689	6.024
	0.897	1.682	6.024
	0.893	1.676	6.024
	0.890	1.669	6.024
	0.886	1.663	6.024
	0.868	1.630	6.024
	0.850	1.598	6.024
	0.832	1.565	6.024
	0.815	1.533	6.024
	0.797	1.500	6.024
	0.779	1.468	6.024
	0.762	1.435	6.024
	0.744	1.402	6.024
	0.726	1.370	6.024
	0.709	1.337	6.024
	0.691	1.304	6.024
	0.674	1.272	6.024
	0.656	1.239	6.024
	0.638	1.206	6.024
	0.621	1.174	6.024
	0.603	1.141	6.024
	0.585	1.109	6.024
	0.568	1.076	6.024
	0.550	1.044	6.024
	0.532	1.011	6.024
	0.514	0.979	6.024
	0.496	0.946	6.024
	0.477	0.914	6.024
	0.459	0.882	6.024
	0.441	0.850	6.024
	0.422	0.818	6.024
	0.403	0.785	6.024
	0.385	0.754	6.024
	0.366	0.722	6.024
	0.347	0.690	6.024
	0.327	0.658	6.024
	0.308	0.627	6.024
	0.288	0.595	6.024
	0.268	0.564	6.024
	0.248	0.532	6.024
	0.228	0.501	6.024
	0.208	0.470	6.024
	0.187	0.439	6.024
	0.167	0.409	6.024

Table 2

	X	Y	Z
	0.146	0.378	6.024
	0.124	0.348	6.024
	0.103	0.317	6.024
	0.081	0.287	6.024
	0.059	0.257	6.024
	0.037	0.228	6.024
	0.015	0.198	6.024
	-0.008	0.169	6.024
	-0.030	0.139	6.024
	-0.054	0.110	6.024
	-0.077	0.082	6.024
	-0.101	0.053	6.024
	-0.124	0.025	6.024
	-0.148	-0.004	6.024
	-0.173	-0.032	6.024
	-0.197	-0.059	6.024
	-0.222	-0.087	6.024
	-0.247	-0.114	6.024
	-0.273	-0.141	6.024
	-0.298	-0.168	6.024
	-0.324	-0.195	6.024
	-0.350	-0.221	6.024
	-0.376	-0.248	6.024
	-0.403	-0.274	6.024
	-0.429	-0.299	6.024
	-0.456	-0.325	6.024
	-0.483	-0.350	6.024
	-0.511	-0.375	6.024
	-0.538	-0.400	6.024
	-0.566	-0.425	6.024
	-0.594	-0.449	6.024
	-0.622	-0.473	6.024
	-0.650	-0.497	6.024
	-0.679	-0.521	6.024
	-0.707	-0.545	6.024
	-0.736	-0.568	6.024
	-0.765	-0.591	6.024
	-0.795	-0.614	6.024
	-0.824	-0.636	6.024
	-0.854	-0.659	6.024
	-0.860	-0.663	6.024
	-0.866	-0.668	6.024
	-0.871	-0.672	6.024
	-0.877	-0.676	6.024
	-0.883	-0.681	6.024
	-0.889	-0.685	6.024
	-0.895	-0.690	6.024
	-0.901	-0.694	6.024

Table 2

	X	Y	Z
	-0.907	-0.698	6.024
	-0.913	-0.703	6.024
	-0.926	-0.713	6.024
	-0.937	-0.724	6.024
	-0.947	-0.736	6.024
	-0.956	-0.749	6.024
	-0.964	-0.764	6.024
	-0.969	-0.778	6.024
	-0.974	-0.794	6.024
	-0.976	-0.810	6.024
	-0.977	-0.825	6.024
	-0.976	-0.841	6.024
	-0.973	-0.857	6.024
	-0.969	-0.872	6.024
	-0.963	-0.887	6.024
	-0.955	-0.901	6.024
	-0.946	-0.914	6.024
	-0.936	-0.927	6.024
	-0.925	-0.938	6.024
	-0.912	-0.947	6.024

It should be understood that the finished HPT vane 40a does not necessarily include all the sections defined in Table 2. The portion of the airfoil 54 proximal to the platforms 60 and 62 may not be defined by a profile section 66. It should be considered that the vane 40a airfoil profile proximal to the platforms 60 and 62 may vary due to several imposed constraints. However the HPT vane 40a has an intermediate airfoil portion 64 defined between the inner and outer vane platforms 60 and 62 thereof and which has a profile defined on the basis of at least the intermediate Sections of the various vane profile sections 66 defined in Table 2.

It should be appreciated that the intermediate airfoil portion 64 of the HPT stage vane 40 is defined between the inner and outer gaspath walls 28 and 30 which are partially defined by the inner and outer vane platforms 60 and 62. More specifically, the Z values defining the gaspath in the region of the stacking line 44 fall within the range of Z= 4.524 and Z=5.806 (see Table 1). Therefore, the airfoil profile physically appearing on HPT vane 40a includes Sections 5 to 10 of Table 2. Sections 3, 4 and 11 are partially in the gaspath. Sections 1, 2, 12 and 13 are outside of the gaspath, but are provided, in part, to fully define the airfoil surface and, in part, to

improve curve-fitting of the airfoil at its radially distal portions. The skilled reader will appreciate that a suitable fillet radius is to be applied between the platforms 60 and 62 and the airfoil portion of the vane.

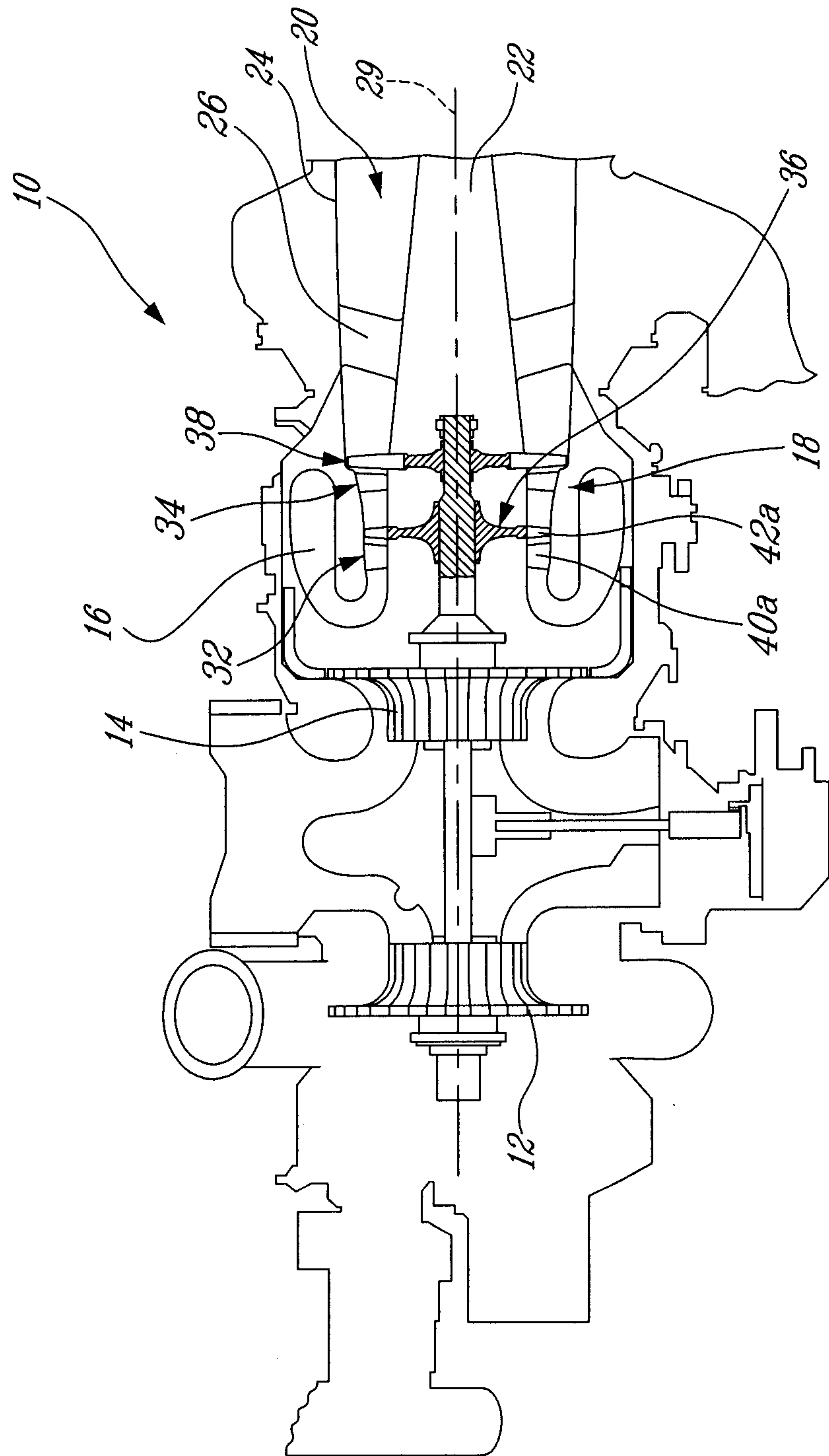
5 The above description is meant to be exemplary only, and one skilled in the art will recognize that changes may be made to the embodiments described without departure from the scope of the invention disclosed. For example, the airfoil and/or gaspath definitions of Tables 1 and 2 may be scaled geometrically, while maintaining the same proportional relationship and airfoil shape, for application to gas turbine engine of other sizes. Still other modifications which fall
10 within the scope of the present invention will be apparent to those skilled in the art, in light of a review of this disclosure, and such modifications are intended to fall within the appended claims.

CLAIMS:

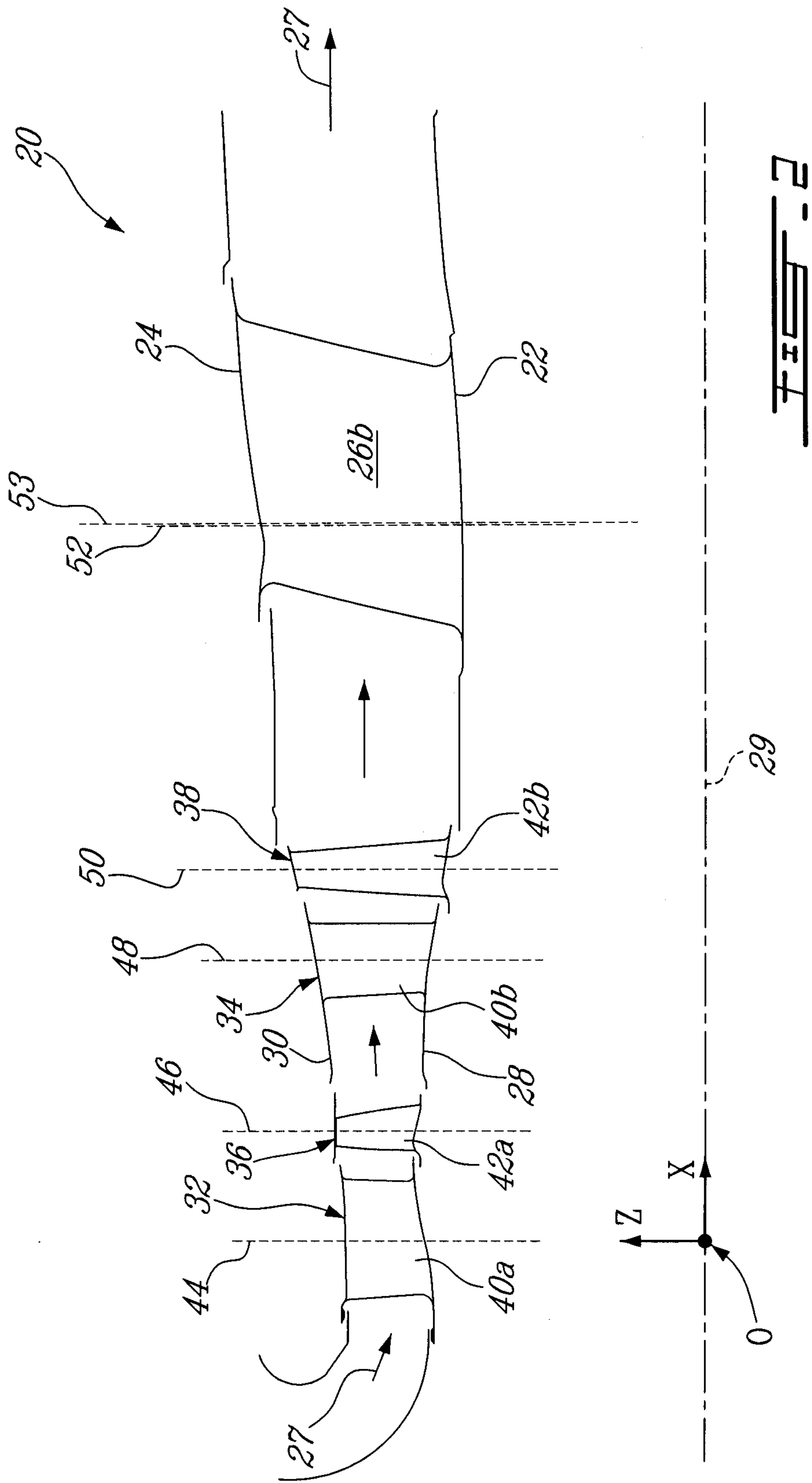
1. A high pressure turbine vane for a gas turbine engine comprising an airfoil having an intermediate portion defined by a nominal profile substantially in accordance with Cartesian coordinate values of X, Y, and Z of Sections 5 to 10 set forth in Table 2, wherein the point of origin of the orthogonally related axes X, Y and Z is located at an intersection of a centerline of the gas turbine engine and a stacking line of the turbine vane, the Z values are radial distances measured along the stacking line, the X and Y are coordinate values defining the profile at each distance Z.
2. The high pressure turbine vane as defined in claim 1, wherein the vane is a single stage high pressure turbine vane.
3. The high pressure turbine vane as defined in claim 1, wherein the X and Y values are scalable as a function of the same constant .
4. The high pressure turbine vane as defined in claim 1, wherein the X and Y coordinate values have a manufacturing tolerance of ± 0.003 inch.
5. The high pressure turbine vane as defined in claim 4, wherein the nominal profile defining the intermediate portion is for an uncoated airfoil, and wherein a coating having a thickness of 0.001 to 0.002 inch is applied to the airfoil.
6. A high pressure turbine vane for a gas turbine engine, the turbine vane having an uncoated intermediate airfoil portion defined by a nominal profile substantially in accordance with Cartesian coordinate values of X, Y, and Z of Sections 5 to 10 set forth in Table 2, wherein the point of origin of the orthogonally related axes X, Y and Z is located at an intersection of a centerline of the gas turbine engine and a stacking line of the turbine vane, the Z values are radial distances measured along the stacking line, the X and

Y are coordinate values defining the profile at each distance Z, and wherein the X and Y values are scalable as a function of the same constant.

7. The high pressure turbine vane as defined in claim 6, wherein the vane is a single stage high pressure turbine vane.
8. The turbine vane as defined in claim 6, wherein the X, and Y coordinate values have a manufacturing tolerance of ± 0.003 inch.
9. The turbine vane as defined in claim 8, wherein a coating having a thickness of 0.001 to 0.002 inch is applied to the vane.
10. A high pressure turbine stator assembly for a gas turbine engine comprising a plurality of vane, each vane including an airfoil having an intermediate portion defined by a nominal profile substantially in accordance with Cartesian coordinate values of X, Y, and Z of Sections 5 to 10 set forth in Table 2, wherein the point of origin of the orthogonally related axes X, Y and Z is located at an intersection of a centerline of the gas turbine engine and a stacking line of the turbine vane, the Z values are radial distances measured along the stacking line, the X and Y are coordinate values defining the profile at each distance Z.
11. A high pressure turbine vane comprising at least one airfoil having a surface lying substantially on the points of Table 2, the airfoil extending between platforms defined generally by Table 1, wherein a fillet radius is applied around the airfoil between the airfoil and platforms.



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