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(54) Title: NON-LINEAR RESOLUTION REDUCTION FOR MEDICAL IMAGERY

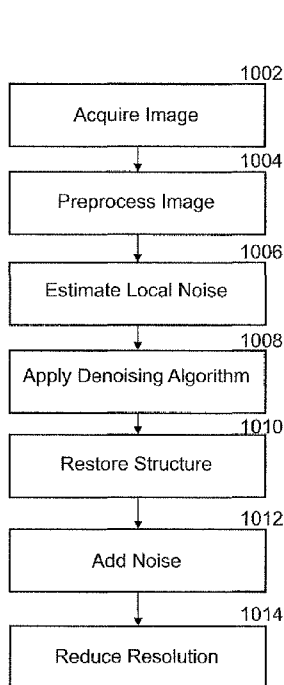


FIG. 1A

(57) Abstract: A method for generating a three-dimensional (3D) low-resolution image from a 3D high-resolution medical image. The 3D high-resolution medical image is a plurality of 2D images having an axial resolution in an axial direction in which the plurality of 2D images were acquired, the method including decomposing the plurality of 2D images generating a plurality of transformed data sets, wherein the transformed data sets corresponds to one of the plurality of 2D images; weighting each pixel in the transformed data sets to generate a plurality of weighted transformed data sets; combining the plurality of weighted transformed data into a single new transformed data set; and generating a 3D low-resolution image, having a first resolution in the axial direction from each of the single new transformed data sets, wherein the first resolution in the axial direction of the 3D low-resolution image is lower than or equal to the axial resolution.

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SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC(8) - G06K 9/00 (2011.01)
 USPC - 382/128
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 USPC: 382/128

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 IPC(8): G06K 9/00 (2011.01); USPC: 382/100,128,154; 715/838,848
 (keyword limited; terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Actual Search: medical, mri, absolute value, contrast, location, area, vicinity, wavelet, laplacian, decomposition, soft threshold, hard threshold, weighted, pixel, voxel, resolution, ct, image, picture, slice, 2d, 3d, dimensional.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y	US 2008/0292194 A1 (SCHMIDT et al.) 27 November 2008 (27.11.2008), entire document, especially; para [0001], [0018], [0030], [0051], [0066], [0086], [0099], [0118], [0154], [0157]-[0159], [0175], [0197]-[0199], [0205], [0213], [0215], [0220], [0221], [0223], [0225], [0240].	1-8, 11 ----- 9, 10
Y	US 2005/0249416 A1 (LEUE et al.) 10 November 2005 (10.11.2005), entire document, especially; para [0070].	9, 10
A	US 2009/0263002 A1 (CREMER et al.) 22 October 2009 (22.10.2009), entire document.	1-11
A	US 7,206,101 B2 (AVINASH) 17 April 2007 (17.04.2007), entire document.	1-11

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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