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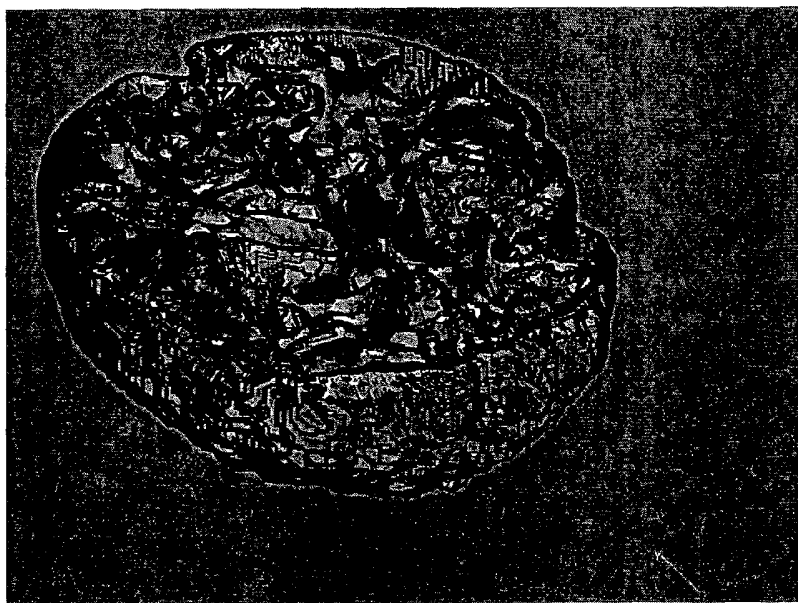
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(54) Title: PROCESS FOR REALISING A BIOMORPHIC, STEREOLITHOGRAPHED PHANTOM, WHICH IS MULTICOMPARTMENTAL AND SUITABLE FOR MULTIANALYTICAL EXAMINATIONS, AND RELEVANT DEVICE



(57) Abstract: The present invention concerns a process for preparing digital images for realising a biomorphic multicompartmental phantom, comprising a phase A.1 of acquisition of images of the organ belonging to the analysed living being, forming a volumetric image defined by voxels, and a phase A.2 of identification of tissues and/or tissue liquids and a phase B of selection of at least three of said tissues and/or tissue liquids, the process being characterised in that it comprises a phase C.1 for verifying the adjacency of the voxels belonging to each single tissue or tissue liquid, so that each tissue or tissue liquid defines a connected volume; a phase C.3 for preparing an image presenting the surfaces of the volumes defined in phase C.1 according to the

sub-phase C.3.2 wherein it is determined a number of surfaces equal to the number of tissues, such that they result internal to one another, even if partially tangent, said surfaces being the convolution of the surfaces of one or more volumes defined in phase C.1, said surfaces giving, by addition or subtraction, all the surfaces corresponding to the tissues or tissue liquids selected in phase B, and a phase C.3.3 wherein a thickness is assigned to said surfaces, so that in the portions wherein two or more surfaces are tangent to one another the thickness is assigned to only one surface, the set of said thickness forming a connected volume. The invention further concerns a phantom produced by using the method according to the invention.



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European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
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## INTERNATIONAL SEARCH REPORT

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## B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, COMPENDEX, INSPEC, BIOSIS

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Y.TANIKAWA-TAKAHASHI, D.IMAI, H.MAKI, S.TAKAHASHI, Y.YAMADA: "Fabrication of dynamic optical head phantoms from an MRI head model" SPIE PROC, vol. 3194, 1998, pages 512-521, XP008031529	1,6-8, 12,13, 16-21
Y	the whole document	2-5, 9-11,14, 15,22-24

☒ Further documents are listed in the continuation of box C.

☐ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>XINQUAN S ET AL: "Segmentation of 2D and 3D images through a hierarchical clustering based on region modelling" PATTERN RECOGNITION, PERGAMON PRESS INC. ELMSFORD, N.Y, US, vol. 31, no. 9, 1 September 1998 (1998-09-01), pages 1295-1309, XP004127714 ISSN: 0031-3203 abstract; figures 8,9 page 1295, column 1, lines 6-8, paragraph 2 page 1296, column 1, paragraph 2 page 1300, column 2, paragraph 1</p>	2-5, 9-11, 14, 15, 22-24
A	<p>AGRIS J M ET AL: "A Novel Method For 3-D Segmentation And Volume Estimation Of Brain Compartments From MRI" ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY, 1991. VOL.13: 1991., PROCEEDINGS OF THE ANNUAL INTERNATIONAL CONFERENCE OF THE IEEE ORLANDO, FL, USA 31 OCT.-3 NOV. 1991, NEW YORK, NY, USA, IEEE, US, 31 October 1991 (1991-10-31), pages 68-70, XP010101571 ISBN: 0-7803-0216-8 the whole document</p>	1-24
A	<p>TANIKAWA-TAKAHASHIA Y, IMAI D, MIZUNO S, MAKI H, SHINOZAKI O, YAMADA Y: "Design and fabrication of a solid simplified head phantom for optical tomography" PROC. SPIE- INT. SOC. OPT. ENG., vol. 2979, 1997, pages 429-436, XP008031530 USA the whole document</p>	1-24
A	<p>OLIVIER CUISENAIRE: "The physics of T1- and T2-weighted MRI" 'Online! 10 May 1999 (1999-05-10), XP002289125 Retrieved from the Internet: URL: <a href="http://www.tele.ucl.ac.be/PEOPLE/OC/these/node100.html">http://www.tele.ucl.ac.be/PEOPLE/OC/these/node100.html</a> 'retrieved on 2004-04-20! the whole document</p>	11