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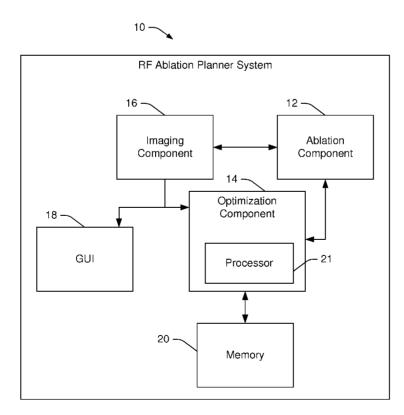
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[Continued on next page]

### (54) Title: RF ABLATION PLANNER



(57) Abstract: In planning an ablation procedure, a planned target volume (PTV) (70, 102) is imported, which is typically selected by a doctor but may be computer identified. An initial set of candidate ablation regions (112) that covers the PTV (40, 70, 102) is computed. Ablation probe trajectories that avoid critical structures (136) are computed to provide surgical 5 options for safe entry points and angles. An optimization component (14) determines a minimum number of ablation regions, which fully covers the PTV (40, 70, 102), and generates locations and orientations for each ablation (108). A tracking system can be given these ablation targets, enabling the surgeon to control the probe more precisely to the desired location.



FIG. 1

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A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B19/00 G06T7/00 G06F19/00 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) A61B G06T G06F 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 C. DOCUMENTS CONSIDERED TO BE RELEVANT Category\* Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. X,P EP 1 791 070 A (GEN ELECTRIC [US]) 1 - 3030 May 2007 (2007-05-30) the whole document WOOD ET AL: "Technologies for Guidance of 1 - 30χ Radiofrequency Ablation in the Multimodality Interventional Suite of the Future" JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY, VA, vol. 18, no. 1 19 January 2007 (2007-01-19), pages 9-24, XP005942749 ISSN: 1051-0443 the whole document \_/\_\_ X I Further documents are listed in the continuation of Box C. See patent family annex. 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 'A' document defining the general state of the art which is not considered to be of particular relevance cited to understand the principle or theory underlying the invention \*E\* earlier document but published on or after the international filling date \*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 "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) \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-ments, such combination being obvious to a person skilled in the art. \*O\* document referring to an oral disclosure, use, exhibition or other means document published prior to the international filing date but later than the priority date claimed \*&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 24 July 2008 06/08/2008 Name and mailing address of the ISA/ Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016 Held, Günter

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