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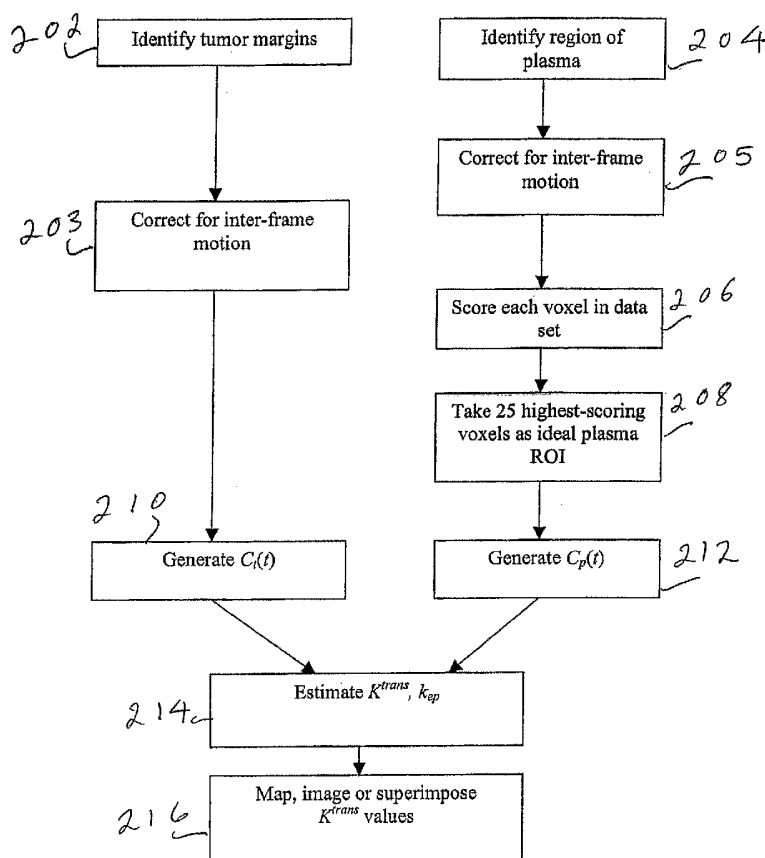
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[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR IDENTIFYING OPTIMIZED BLOOD SIGNAL IN MEDICAL IMAGES TO ELIMINATE FLOW ARTIFACTS



(57) Abstract: In a sequence of medical image data showing tumors and blood vessels, a plasma signal is optimized to avoid flow artifacts by receiving a user input of a blood region and using the user input to seed an automated search. Each voxel is scored by time point of maximum intake, slope at maximum intake, peak value and conformance to a gamma variate curve, and the voxels with the highest scores are included in the ideal plasma region of interest. Uptake curves for both tumors and plasma are determined and used to estimate a volume transfer constant.



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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/08952

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8): A61B 5/05

USPC: 600/425

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)

U.S. : 600/425, 421, 420; 382/131; 324/309

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
East -- blood, gamma, plasma, tumor, contrast, curve

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, P ---	US 6,745,066 B1 (LIN ET AL) 01 JUNE 2004 (01.06.2004), SEE FIGURES 1 AND 3; COLUMN 5, LINES 15-20, 26-30, 55; COLUMN 6, LINES 13, 16, 19; COLUMN 7, LINES 19-21	1-3, 5-8 ----- 4, 9-28
Y, P		
Y	MARK RIJPKEMA, ET AL, Method for Quantitative Mapping of Dynamic MRI Contrast Agent Uptake in Human Tumors, Journal of Magnetic Resonance Imaging 14:457-463, 2001, pp. 457-463.	4, 9-28
Y	US 6,112,112 A (GILHUIJS ET AL) 29 AUGUST 2000 (29.08.2000), SEE COLUMN 1, LINES 16-17; COLUMN 4, LINES 23-24.	14, 24
Y	US 5,329,478 A (KIRK ET AL) 12 JULY 1994 (12.07.1994), SEE ENTIRE DOCUMENT.	15-16, 25-26

☐ Further documents are listed in the continuation of Box C.

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# INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 2:  
partial classification of 600/407 and 324/309  
IEEE non-patent literature search