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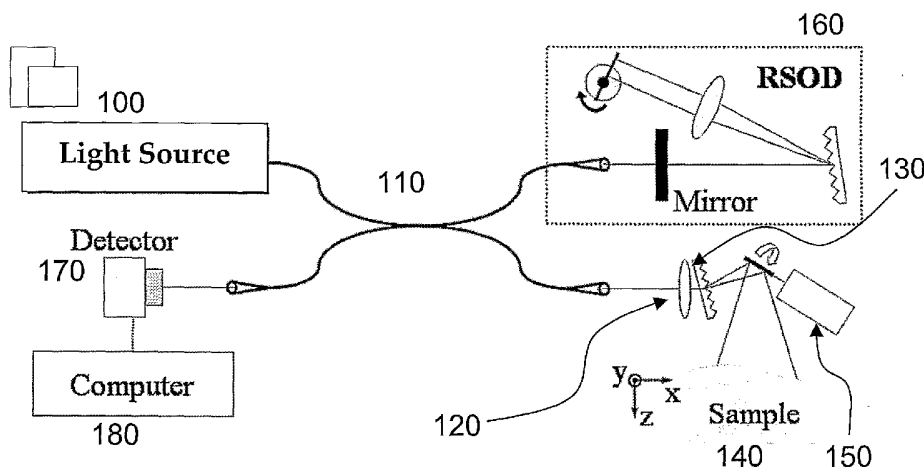
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(54) Title: SPECTRAL ENCODING HETERODYNE INTERFEROMETRY TECHNIQUES FOR IMAGING



(57) Abstract: Systems, arrangements and methods for obtaining three-dimensional imaging data are provided. For example, a broadband light source (100) can provide a particular radiation. A first electro-magnetic radiation can be focused and diffracted, and then provided to at least one sample (140) to generate a spectrally encoded line. A second Electro-magnetic radiation may be provided to a reference, which may include a double-pass rapidly-scanning optical delay (160), where the first and second Electro-magnetic radiation's can be based on the particular radiation. An interference between a third Electro-magnetic radiation (associated with the first Electro-magnetic radiation) and a fourth Electro-magnetic radiation (associated with the second Electro-magnetic radiation) can be detected. The spectrally encoded line may be scanned over the sample in a direction approximately perpendicular to the line. Image data containing three-dimensional information can then be obtained based on the interference. The exemplary imaging methods and systems can be used in a small fiber optic or endoscopic probe.

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A. CLASSIFICATION OF SUBJECT MATTER INV. A61B5/00 G01N21/47 G01B9/02		
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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, INSPEC		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents :		
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "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) "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	"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 "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 "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 documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family	
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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