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[54] **METHOD FOR DETECTING AN IMAGE OF AN OBJECT**

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[58] **Field of Search** 378/62, 70, 71, 378/84, 87, 37, 36, 98.12

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[57] **ABSTRACT**

A method for detecting an absorption, refraction and scatter image of an object by independently analyzing, detecting, digitizing, and combining images acquired on a high and a low angle side of a rocking curve of a crystal analyzer. An x-ray beam which is generated by any suitable conventional apparatus can be irradiated upon either a Bragg type crystal analyzer or a Laue type crystal analyzer. Images of the absorption, refraction and scattering effects are detected, such as on an image plate, and then digitized. The digitized images are simultaneously solved, preferably on a pixel-by-pixel basis, to derive a combined visual image which has dramatically improved contrast and spatial resolution over an image acquired through conventional radiology methods.

19 Claims, 6 Drawing Sheets