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(54) FFL-BASED MAGNETIC PARTICLE IMAGING THREE-DIMENSIONAL RECONSTRUCTION METHOD, SYSTEM, AND DEVICE

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(58) Field of Classification Search

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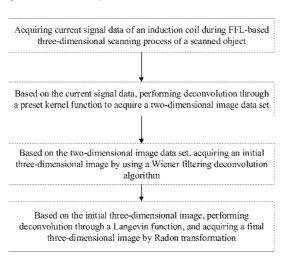
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## (57) ABSTRACT

A FFL-based magnetic particle imaging three-dimensional reconstruction method includes: acquiring current signal data of an induction coil during FFL-based three-dimensional scanning process of a scanned object; based on the current signal data, performing deconvolution through a preset kernel function to acquire a two-dimensional image data set, wherein the kernel function is a step function with L2 regularized constraint; based on the two-dimensional image data set, acquiring an initial three-dimensional image by using a Wiener filtering deconvolution algorithm; and based on the initial three-dimensional image, performing deconvolution through a Langevin function, and acquiring a final three-dimensional image by Radon transformation. A FFL-based magnetic particle imaging three-dimensional reconstruction system includes a magnet group, an induction coil, an imaging bed, and a control and imaging device, wherein, a magnetic particle imaging method in the control and imaging device is the FFL-based magnetic particle imaging three-dimensional reconstruction method.

## 12 Claims, 2 Drawing Sheets



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