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(54) **SYSTEM AND METHOD FOR USING ELECTROMAGNET ARRAYS TO DETERMINE 3D RELATIVE POSITION OF ELECTRONIC DEVICE CORRESPONDING TO OBJECT**

(58) **Field of Classification Search**
USPC 702/150, 152
See application file for complete search history.

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(57) **ABSTRACT**
A method for using electromagnet arrays to determine a 3D relative position of an electronic device corresponding to an object is provided. The method includes: providing an object using an electromagnet array composed of a plurality of electromagnets, wherein each electromagnet corresponds to one of a plurality of XY plane position information; sensing, by a magnetic sensor of an electronic device, a magnetic signal generated by the electromagnet array; determining, by a processing unit of the electronic device, the XY plane position information of the electronic device corresponding to the object according to the magnetic signal and the XY plane position information; sensing, by the magnetic sensor, a magnetic variation corresponding to the magnetic signal; and obtaining, by the processing unit, a Z-axis position information of the electronic device corresponding to the object according to the magnetic variation.

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16 Claims, 4 Drawing Sheets

