

## A Calculation of Superconductor Bearing Characteristics

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When we design for the flywheel system of superconductor, it is required to expect the basic characteristics of superconductor bearing. It is difficult and complex to expect the characteristics of superconductor bearings using the models which have been introduced up to now. We would use the nature that the permanent magnet intends to maintain its position continuously due to interactive forces between permanent magnets and superconductors after field cooling. The stable equilibrium is formed by two imaginary magnets ; one represents attraction force and the other does a repulsion force. Using " Frozen image" concept, the interactive force between permanent magnets and superconductors can be transferred one of two permanent magnets, we calculated characteristics of superconductor bearing, such as an axial, radial stiffness and levitation force, and got the correction factor by comparing with the data driven from three experimental models. Calculation would be a great help to expect characteristics of superconductor bearings. Through this easy model, we made a base to find an optimum condition

keywords : superconductor bearing, stiffness, image magnetic dipole, imaginary magnet