

Electromagnetic Property of Bearingless Motor Based on Electromagnetic Induction

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We introduce a new type bearingless motor whose magnetic bearing is based on electromagnetic induction. This new type motor generates torque by the same way as permanent magnet synchronous motor. Although many bearingless motors apply the active control method for their magnetic bearings, this new type motor applies passive electromagnetic induction method for the magnetic bearings. Therefore it has a high potential to be simple, reliable and reasonable bearingless motor. In this paper we explain the principle of the new type bearingless motor and introduce the calculated and measured results of its electromagnetic characteristics.