

**Evaluation of Vibration Resistance of Levitation and Guidance Ground Coils
by Electromagnetic Excitation Tests Using a Superconducting Magnet**

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During superconducting Maglev vehicles running, ground coils vibrate due to the reaction force of levitation force and guidance force. In electromagnetic excitation tests, a ground coil is vibrated under the strong magnetic field of a superconducting magnet. In this paper, we describe an examination of test conditions based on numerical analysis, a processing method for energizing only an unit coil to be evaluated, and the electromagnetic excitation test results of the levitation and guidance coil. We have evaluated the vibration resistance of levitation and guidance ground coils by electromagnetic excitation tests.