



Special Session on Magnetic Levitation

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Call for Papers

This special session focuses on the principles, design, modeling, and control of magnetic levitation (MagLev) systems, enabling contact-less suspension and motion control of objects. Magnetic levitation eliminates mechanical contact, thereby reducing friction, wear, noise, and maintenance while enhancing reliability and precision. The session will cover electromagnetic suspension, permanent-magnet and hybrid levitation techniques, system dynamics, sensing, power electronics, and advanced control strategies. Applications ranging from high-speed transportation, precision manufacturing, vibration isolation, and rotating machinery to emerging energy and aerospace systems will be highlighted. The session aims to bring together researchers and practitioners to discuss recent advances, challenges, and future directions in magnetic levitation technologies.

Submissions Procedure:

All the instructions for paper submission are given at the conference website:

<https://taltech.ee/en/PEMC2026/paper-submission>

Topics of interest include but are not limited to

1	Electromagnetic suspension and magnetic levitation system modeling
2	Stability analysis, sensing, and advanced control strategies for MagLev systems
3	Design and optimization of levitation actuators, power electronics, and controllers
4	Active vibration control and disturbance rejection using magnetic levitation
5	Magnetic bearings and contact-less support for high-speed rotating machines
6	Fault-tolerant, robust, and real-time control of levitation systems
7	Industrial, transportation, aerospace, and energy applications of magnetic levitation