

Physics
AT QUEENS COLLEGE

Colloquium Notice

Michael Weinstein

Columbia University

Quantum tunneling and its absence in deep wells and strong magnetic fields

In the absence of a magnetic field, a quantum particle always tunnels from one well into a neighboring well through a “classically forbidden” region at a rate which is the reciprocal of the “eigenvalue splitting”. Magnetic systems give rise to entirely new tunneling phenomena. We construct a family of double well potentials containing examples for which quantum tunneling is completely eliminated. On the other hand, magnetic tunneling does occur for **typical** double-well potentials, and we prove an upper bound on its tunneling rate. This is joint work with C.L. Fefferman and J. Shapiro.

Monday

April 20, 2026

Starts at 12:15 PM

Coffee at 12:00 PM

Physics Conference Room, SB B326

This talk is accessible via [Zoom](#) or use

meeting ID 829 2687 2594 and **passcode 866995** to join