

# Laser control of resonance tunneling via an exceptional point

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According to the familiar Breit-Wigner formula, tunneling through a potential barrier is strongly enhanced when the energy of the projectile is equal to the resonance energy. Here we show how a weak cw laser can qualitatively change the character of resonance tunneling, and enforce a sudden and total suppression of the transmission by inducing an exceptional point (EP, special non-Hermitian degeneracy). Our findings are relevant not only for laser control of transmission in the resonance tunneling diodes (RTD), but also in the context of electron scattering through any type of metastable (e.g., autoionization, Auger, ICD) atomic/molecular states, and even in the case of transmission of light/sound waves in active systems with gain and loss.