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Nota di contenuto	A brief history of quantum tunneling -- Some basic questions concerning quantum tunneling -- Semi-classical approximations -- Generalization of the Bohr-Sommerfeld quantization rule and its application to quantum tunneling -- Gamow's theory, complex eigenvalues, and the wave function of a decaying state -- Simple solvable problems -- Tunneling in confining symmetric and asymmetric double-wells -- A classical description of tunneling -- Tunneling in time-dependent barriers -- Decay width and the scattering theory -- The method of variable reflection amplitude applied to solve multichannel tunneling problems -- Path integral and its semi-classical approximation in quantum tunneling -- Heisenberg's equations of motion for tunneling -- Wigner distribution function in quantum tunneling -- Complex scaling and dilatation transformation applied to the calculation of the decay width -- Multidimensional quantum tunneling -- Group and signal velocities -- Time-delay, reflection time operator and minimum tunneling time -- More about tunneling time -- Tunneling of a system with internal degrees of freedom -- Motion of a particle in a space bounded by a surface of revolution -- Relativistic formulation of quantum tunneling -- The inverse problem of quantum tunneling -- Some examples of quantum tunneling in atomic and molecular physics -- Examples from condensed matter physics -- Alpha decay.

