

The double slit experiment

Particles go through the apparatus and form wave-like interference fringes

Example of dynamical quantum interference effects

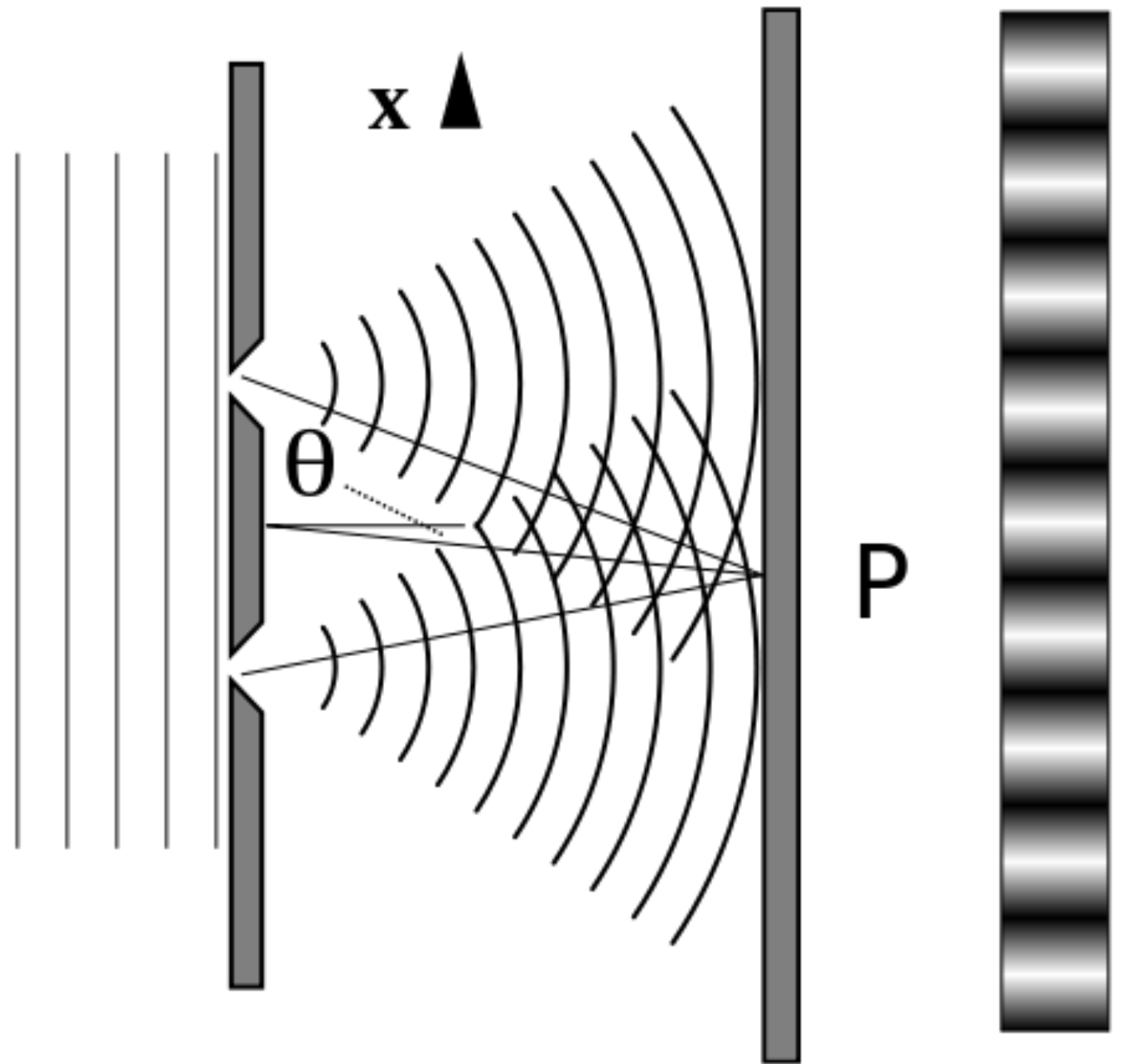
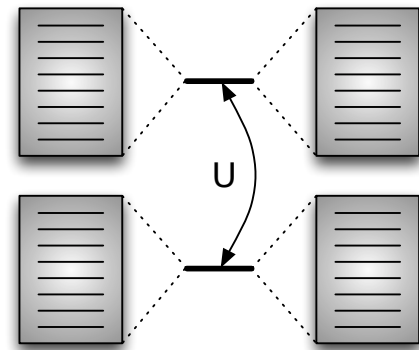
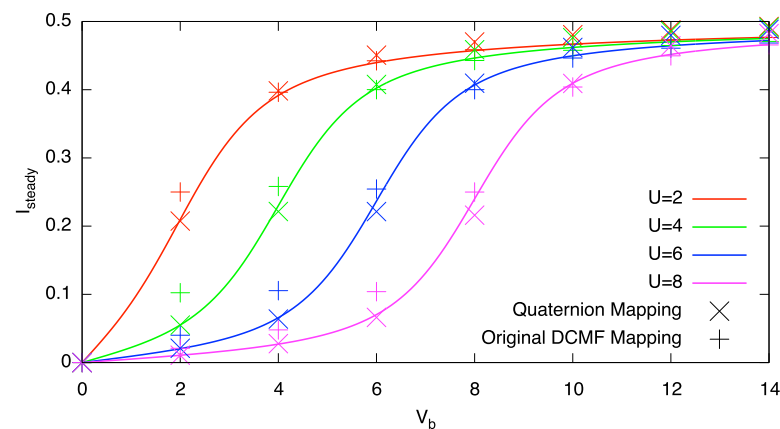


Image from Wikipedia

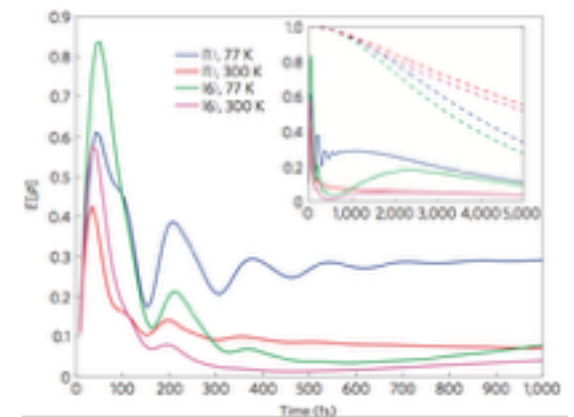
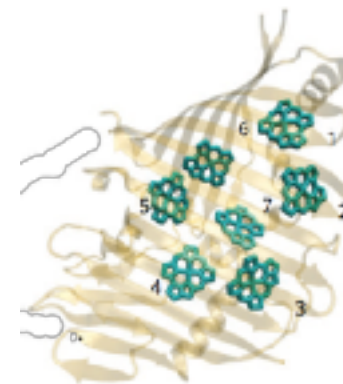
“A phenomenon ... which has in it the heart of quantum mechanics” (Feynman)

Dynamical interferences



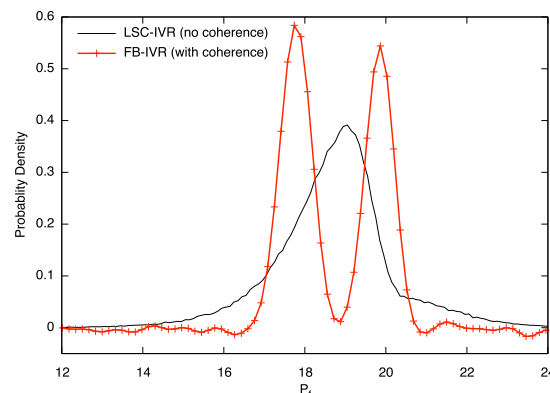
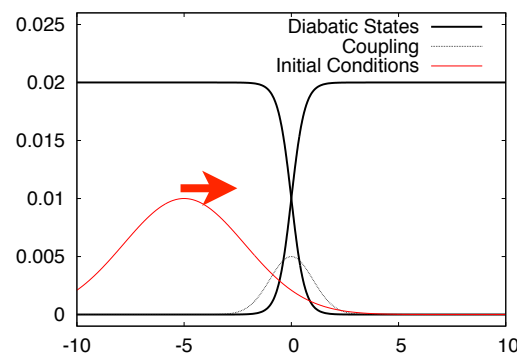
Are interference effects the reason our mapping changed for Coulomb blockade?

Li, Levy, DWHS, Rabani, Miller. JCP **138**, 104110 (2013)



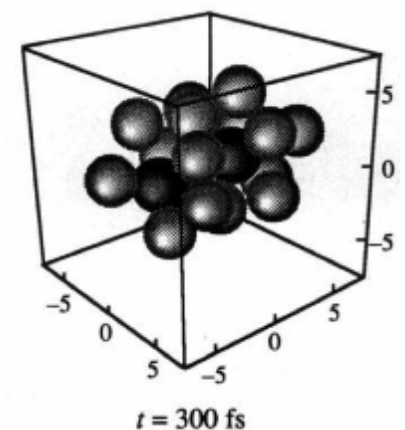
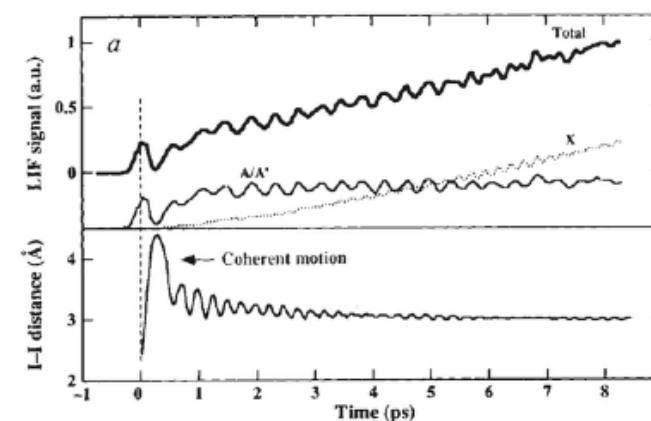
Do biological processes make use of dynamical quantum interferences?

Sarovar et al. Nature Phys **6**, 462 (2010)



Dynamical quantum interference effects are important for some properties in nonadiabatic dynamics

Ananth, Venkataraman, Miller. JCP **127**, 084114 (2007)



Dynamical interference effects are the quantum coherence effects seen in I2-Ar complexes

Liu, Wang, and Zewail. Nature **364**, 427 (1993)