

Plenary talks (PV)

Plenary Talk

PV IX Thu 9:45 E 415

Entanglement, Interference and Tunneling - Multiparticle Coincidence Experiments of Molecular Fragmentation —

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COLTRIMS Reaction Microscopes today allow measuring the correlations between all fragments (electrons and ions) from ionization pro-

cesses of atoms and molecules. We will show synchrotron, laser and ion beam based experiments, where this technique is used to explore fundamental quantum phenomena such as entanglement, double slit interference and tunneling.

One of the examples we will show is the realization of Einsteins Gedankenexperiment on double slit interference where he proposed that measuring the momentum transfer to a double slit would unveil through which of the two slits the quantum particle had passed.