



MAFIA - the seminar you can't refuse

## **Quantum time delay for unitary propagators**

**Rafael Tiedra de Aldecoa**

Pontificia Universidad Católica de Chile

December 12, 2017

13:15–14:15

in T115/C

Fakulta jaderná a fyzikálně inženýrská ČVUT  
Trojanova 13, 12000 Praha

**Abstract:** We explain how to define a notion of time delay in two-Hilbert spaces quantum scattering theory when the free dynamics and the full dynamics are given by unitary propagators. We prove that the time delay defined in terms of sojourn times in dilated regions (time-dependent definition) coincides with the expectation value of a unitary analogue of the Eisenbud-Wigner time delay operator (time-independent definition). The theory is general and model-independent. Joint work with Diomba Sambou (PUC Chile).