

# A Physical-space Approach to Global Asymptotics for Variable-coefficient Klein-Gordon Equations

*mercredi 14 janvier 2026 14:00 (1 heure)*

In this talk, I will discuss a new physical-space approach to establish the time decay and global asymptotics of solutions to variable-coefficient Klein-Gordon equations in (3+1)-dimensions. A key innovation in our methodology is the concept of a “good commutator,” which extends Klainerman’s classical commuting vector field method, and which combines well with Ifrim-Tataru’s testing by wave packets. As an immediate non-linear application, we obtain new small data global existence and asymptotics results for quasilinear Klein-Gordon equations with quadratic nonlinearity, variable coefficients in their linear part, and possibly outside obstacles.

This talk is based on an upcoming work with F. Pasqualotto (UCSD) and N. Tang (UC Berkeley).

**Orateur:** OH, Sung-Jin (UC Berkeley)