



Seminar of the Work Group
Nonlinear Partial Differential Equations
WS 21/22

Speaker: Dr. Marco Olivieri
December 7th, 2021, 14:00 - 15:00
Zoom Link: <https://kit-lecture.zoom.us/j/5732649920>
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Scattering Theory for Scalar Quantum Fields in Semiclassical Regime

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Abstract

In this talk we derive an effective scattering theory for the Yukawa model describing the interaction between a small system of confined particles and an environment given by a scalar quantum field. In the semiclassical regime the particles and the field behave like macroscopic objects and their quantum dynamics can be approximated by their classical counterpart. By means of techniques of semiclassical analysis involving the Wigner measures, we study the limit of the wave operators and the asymptotic behavior of the bounded states.