

Simona Rota Nodari: The Dirac-Klein-Gordon system in the strong coupling limit.

Thursday, July 7, 2022 9:00 AM (1 hour)

In this talk, I will present a recent result on the behaviour of the solutions of a Dirac-Klein-Gordon system in the limit of strong coupling and large masses of the Klein-Gordon fields. I will prove convergence of the solutions to the system to those of a cubic non-linear Dirac equation. This shows that in this parameter regime, which is relevant to the relativistic mean-field theory of nuclei, the retarded interaction is well approximated by an instantaneous, local self-interaction.

This is a joint work with J. Lampart, L. Le Treust and J. Sabin.