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*Remarks on local theory for Schrödinger maps near harmonic maps*

In this talk, we consider the Schrödinger map equation (Landau–Lifshitz equation). In the study of the equation, one of the major method is to reduce it to some nonlinear Schrödinger equation, which is called the modified Schrödinger map equation. This talk will focus on the case of equivariant solutions under the Coulomb gauge condition. We show that the derivation of modified equation can be justified even from rough solutions. This result leads to an improvement on the uniqueness of solutions near harmonic maps.