ANALYSIS AND DIFFERENTIAL GEOMETRY
SEMINAR

Recovery of the nonlinearity from the modified scattering map

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Abstract: We consider the problem of recovering the nonlinearity in a nonlinear Schrödinger equation from scattering data, a problem for which there is a relatively large literature. We consider a new situation in which the equation does not admit standard scattering, but instead features the modified scattering behavior with logarithmic phase correction. We prove that even in this case, the modified scattering data suffices to determine the unknown nonlinearity.

Thursday, April 13, 2023, 4:00 pm

Mathematics and Science Center: MSC W301

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