

# Inverse Born Approximation in Two Dimensions. First Nonlinear Term.

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This work deals with the inverse scattering problem for two-dimensional Schroedinger operator. The following problem is studied: To estimate more accurately first nonlinear term from the Born's series which corresponds to the scattering data with all arbitrary large energies and all angles in the scattering amplitude. This estimate allows us to conclude that all singularities and jumps of the unknown potential can be obtained exactly by the Born approximation. Especially, for the potentials from  $L^p$ -spaces the approximation agrees with the true potential up to the continuous function. Generalizations for higher dimensions are considered as well as other inverse scattering problems.