

Propagation of singularities for Schrödinger equations with long range perturbations

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Abstract: The singularities of solutions to Schrödinger equations (with short range perturbations) can be described using the scattering theory for the corresponding classical mechanics. If the perturbation is long range type, then we need to use long range scattering technologies, namely, we need to employ a solutions to the Hamilton-Jacobi equation in the momentum space. If the perturbation is modestly long-range, then we can use the Dollard type approximate solution, and we can describe the singularities rather explicitly. (Partly joint work with K. Horie)