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A large time asymptotics for the solution of the Cauchy problem for the Novikov-Veselov equation at negative energy with non-singular scattering data

Anna Kazeykina (CMAP)

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In the present paper we are concerned with the Novikov--Veselov equation at negative energy, i.e. with the $(2 + 1)$--dimensional analog of the KdV equation integrable by the method of inverse scattering for the two--dimensional Schr\"odinger equation at negative energy. We show that the solution of the Cauchy problem for this equation with non--singular scattering data behaves asymptotically as $\frac{\const}{t^{3/4}}$ in the uniform norm at large times t. We also present some arguments which indicate that this asymptotics is optimal.

Subjects: **Analysis of PDEs (math.AP)**; Mathematical Physics (math-ph)

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