

Rarefaction waves of the Korteweg–de Vries equation via nonlinear steepest descent

Kyrylo Andreiev, Iryna Egorova, Till Luc Lange, Gerald Teschl

Abstract

We apply the method of nonlinear steepest descent to compute the long-time asymptotics of the Korteweg–de Vries equation with steplike initial data leading to a rarefaction wave. In addition to the leading asymptotic we also compute the next term in the asymptotic expansion of the rarefaction wave, which was not known before.

References

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