

The Dispersion Relation for the $1/\sinh^2$ Potential in the Classical Limit

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The dispersion relation for the inverse hyperbolic potential is calculated in the classical limit. This is shown for both the low amplitude phonon branch and the high amplitude soliton branch. It is shown that these results qualitatively follow the previously found ones for the inverse squared potential where explicit analytic solutions are known.

Key words: Dispersion Relation; Solitons; Sutherland Model.

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