To be Defined

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Abstract

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The Korteweg-De Vries equation is given by the following equation

$$\partial_t \phi + 6\phi\, \partial_x \phi + \partial_x^3 \phi = 0\,, \tag{1.1}$$

is the Euler-Lagrange equation of motion derived from the Lagrangian density, $\mathcal{L}$

$$\mathcal{L} = \frac{1}{2}\partial_x \psi\, \partial_t \psi + (\partial_x \psi)^3 - \frac{1}{2}\left(\partial_x^2 \psi\right)^2\,, \tag{1.2}$$

with ϕ defined by the following expression

$$\phi = \frac{\partial \psi}{\partial x}\,. \tag{1.3}$$

1.1 Overall Strategy

References

[1] Korteweg-De Vries equation

[2] Poschl-Teller potential