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Type: Oral Presentation

## Wave-packet scattering off a soliton

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We investigate the scattering of a wave-packet off a soliton in the (1+1) dimensional kink model. We solve the classical, time-dependent field equation numerically subject to the initial condition that the wave-packet is widely separated from the kink soliton at very early times and propagates towards the soliton. After some time the wave-packet interacts with the static soliton and departs from it at later times. At very late times the wavepacket is finally again separated from the soliton. We then extract the scattering matrix from the distorted wave-packet and compare it to the known result from the static scattering calculation. This investigation constitutes a first step towards studying crossing symmetry in soliton models, i.e. in a framework beyond perturbation theory.

## Level (Hons, MSc, <br> &nbsp; PhD, other)?

MSc

## Consider for a student <br> &nbsp; award (Yes / No)?

Yes

## Would you like to <br> submit a short paper <br> for the Conference <br> Proceedings (Yes / No)?

Yes

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