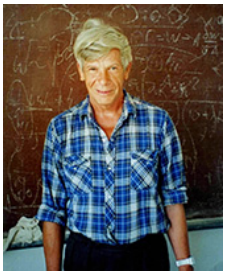

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Collisions of solitons in non-integrable scalar theories

Monday, 10 October 2022 14:30 (25 minutes)

We investigate soliton collisions a one-parameter family of scalar field theories in 1+1D. The models have a sextic potential with three local minima, and for suitably small values of the parameter its kinks have an internal structure in the form of two weakly-bound subkinks. We show that for these values of the parameter kink collisions are best understood as an independent sequence of collisions of these subkinks, and that a static mode analysis is not enough to explain resonant structures emerging in this model. We also emphasise the role of radiation and oscillon formation in the collision process.

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