

# Strongly interacting kink-antikink pairs for scalar fields in $1 + 1$ dimension

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## **Abstract**

A nonlinear wave equation with a double-well potential in  $1 + 1$  dimension admits stationary solutions called kinks and antikinks, which are minimal energy solutions connecting the two minima of the potential. We study solutions whose energy is equal to twice the energy of a kink, which is the threshold energy for a formation of a kink-antikink pair. We prove that, up to translations in space and time, there is exactly one kink-antikink pair having this threshold energy. I will explain the main ingredients of the proof. Joint work with Michał Kowalczyk and Andrew Lawrie.