

# The ill-posedness of (non-)periodic travelling wave solution for deformed continuous Heisenberg spin equation

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January 8, 2022

## Abstract

Based on an equivalent derivative nonlinear Schrödinger equation, some periodic and non-periodic two-parameter solutions of the deformed continuous Heisenberg spin equation are obtained. These solutions are all proved to be ill-posed by the estimates of Fourier integral in  $H^s(\mathbb{T})$  (periodic solution in  $H^s(\mathbb{T})$  and non-periodic solution in  $H^s(\mathbb{R})$  respectively). If  $\alpha \neq 0$ , the range of the weak ill-posedness index is 1

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