## Accepted Manuscript

A Fourier spectral method for fractional-in-space Cahn-Hilliard equation

Zhifeng Weng, Shuying Zhai, Xinlong Feng

 PII:
 S0307-904X(16)30550-9

 DOI:
 10.1016/j.apm.2016.10.035

 Reference:
 APM 11396

To appear in:

Applied Mathematical Modelling

Received date:1 December 2015Revised date:12 September 2016Accepted date:6 October 2016

Please cite this article as: Zhifeng Weng, Shuying Zhai, Xinlong Feng, A Fourier spectral method for fractional-in-space Cahn-Hilliard equation, *Applied Mathematical Modelling* (2016), doi: 10.1016/j.apm.2016.10.035

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## Highlights

- An second-order time-spectral space-scheme for space fractional CH equation.
- The proposed scheme satisfies mass conservation and energy degradation.
- The fractional order controls the thickness and the lifetime of the interface.
- The mean-zero solutions of the space fractional CH equation may be unstable.

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