Structure-preserving finite difference scheme for Landau-Lifshitz equation

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The Landau-Lifshitz (LL) equation describes an evolution of spin fields of the magnetization in continuum ferromagnetism and has the following properties: (i) length preserving and (ii) energy conservation or dissipation property. We proposed a finite difference scheme which inherits these properties. We also establish the convergence result. Finally, we demonstrate numerical examples.

References

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