

2021年度 第5回早稲田物性セミナー開催のお知らせ

下記の通り、第5回早稲田物性セミナーを開催いたします。皆さまのご参加をお待ちしております。

Date: 2021年9月17日(金) 16:00~

Place: オンライン (Zoom)

Title: Micromagnetic Behaviors of Magnetic Topological Solitons

Speaker: Lan Bo (Northeastern Univ., P.R.China)

[Abstract]

The talk will mainly include two of my recent works that have yet been published. The first one is Spin-Wave Driven Skyrmion Motion on Wedge Nanotracks. We demonstrate the regulation of SW-driven skyrmion dynamics on a wedge nanotrack with a small inclined angle. It is found that the edge potential barrier acts as an extra driving force and significantly increases the skyrmion velocity. By analyzing Thiele equation and velocity fitting function, we determine the optimal inclined angle and give the quantitative expression of the increased velocity with respect to material and geometric parameters. The second one is Spin Excitation Spectrum of a Magnetic Hopfion. We investigate the spin excitation of a 3D magnetic Hopf soliton, and reveal its corresponding spin-wave modes. It shows that different from skyrmion tubes, the topological defects in hopfions can act as spin-wave absorbers and make the complex vertical resonance modes no longer exist. We also find that breathing and rotating modes could hybridize in hopfions under z-direction excitations, and thus characterize the five individual spin-wave modes by a set of number pair (b, r) . Finally, if time is sufficient, I can also briefly introduce my other five works that have already been published.

問合せ先:

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