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【801】Spintronics with topologically charged structures –vortex sensors for speed wheel sensors to the potential of skyrmion storage

Wednesday 23 August 2017 17:00 (30 minutes)

Within the talk I will review our activity on spintronic applications which is done in close cooperation with the industrial partner Infineon AG. The advantage of topological charged vortex structure for sensor application for low noise speed sensors will be reported that will be commercialized by Infineon for ABS systems in cars in 2018.
As a second example, we will review the potential of skyrmion based racetrack structures. We will report the effect of structural pinning sites in order to stabilize magnetic skyrmion position in order to store stable bits. The energy barrier for annihilation of skyrmion at the boundary will be compared with the energy barriers to overcome these pinning site. It is shown that skyrmions can be more effectively pinned than protected from annihilation via boundaries.

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