

TRR Guest Scientist Lecture / Seminar

Date/Time: Thursday, 27.06.2019 / 14:15 Uhr

Location: TU Dortmund University
Otto-Hahn-Str. 4a
44227 Dortmund
Room P2-E0-414 (AV room, Physics Building)

Dr. Igor Savochkin

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Magnon dynamics in iron-garnets excited by a train of femtosecond laser pulses

Abstract:

In our work we identify novel features of the periodic optical excitation of magnons. We excite magnetization of iron-garnet film by a sequence of circularly polarized laser pulses at high repetition rate so that interval between pulses is shorter than the decay time of the oscillations. As a result, magnons are generated in a specific narrow range of wavenumbers. We show that such excitation method provides some valuable features: enhancement of magnetization oscillation amplitude, increasing of spin waves propagation range and significant level of spin waves wavelength tunability.

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