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Ultrafast Spin Dynamics

Spin Cavitronics with YIG

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Cavities are bounded regions that support standing waves and a peaked density of states of photons, magnons, or phonons. The interaction of probes inserted into such cavities allows control of their interactions with the waves in questions. The science and technology to employ cavities to manipulate spin and magnetization may be referred to as “spin cavitronics”. In this colloquium, I will review recent work on the spin cavitronics using Yttrium Iron Garnet, a ferrimagnetic insulator with high optical, acoustic, and magnetic quality.