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Type: **Poster Presentation**

Non-resonant microwave absorption in FeSi thin films

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Non-resonant microwave absorption measurements at 9.4 GHz (X-band) using electron spin resonance spectrometer (ESR), were carried out on pulsed laser deposited (PLD) polycrystalline FeSi thin films grown on Si(111) substrate. The low-field microwave absorption (LFA) properties of the films were investigated as a function of DC modulation field, temperature, microwave power and angle. The DC field and AC field were orientated parallel to the film surface. The DC field was orientated normal to the AC field. The anisotropy field was observed to have a central influence on the LFA shape on all the measurements made, which makes LFA very similar to giant magneto-impedance (GMI). Thin films of FeSi could be potential candidates for magnetic field sensors (based on their GMI). Magnetic anisotropy could be a signature of ferromagnetic state of a material and hence thin films of FeSi are promising candidates for Spintronics applications.

**Level (Hons, MSc,
 PhD, other)?**

MSc

**Consider for a student
 award (Yes / No)?**

Yes

**Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?**

Not sure

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