



Thesis Title: Study on solid-state quantum optoelectronic devices



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Research Work:

- Highly Efficient Spintronic Terahertz Emitter.
- 2D material-based Ultrafast and Broadband Terahertz Modulator.

Publication:

- Ghosh, S., Bhattacharya, K., **Sasmal, S.**, Bhatt, K., Kandar, S., Khan, B., Luo, C. W., Singh, R., Basu, A., & Das, S. Optically Pumped Ultrafast and Broadband Terahertz Modulation with Scalable Molecular Beam Epitaxy Grown MoTe_2/Si Heterostructures. *Advanced Materials Technologies*. <https://doi.org/10.1002/admt.202402036>

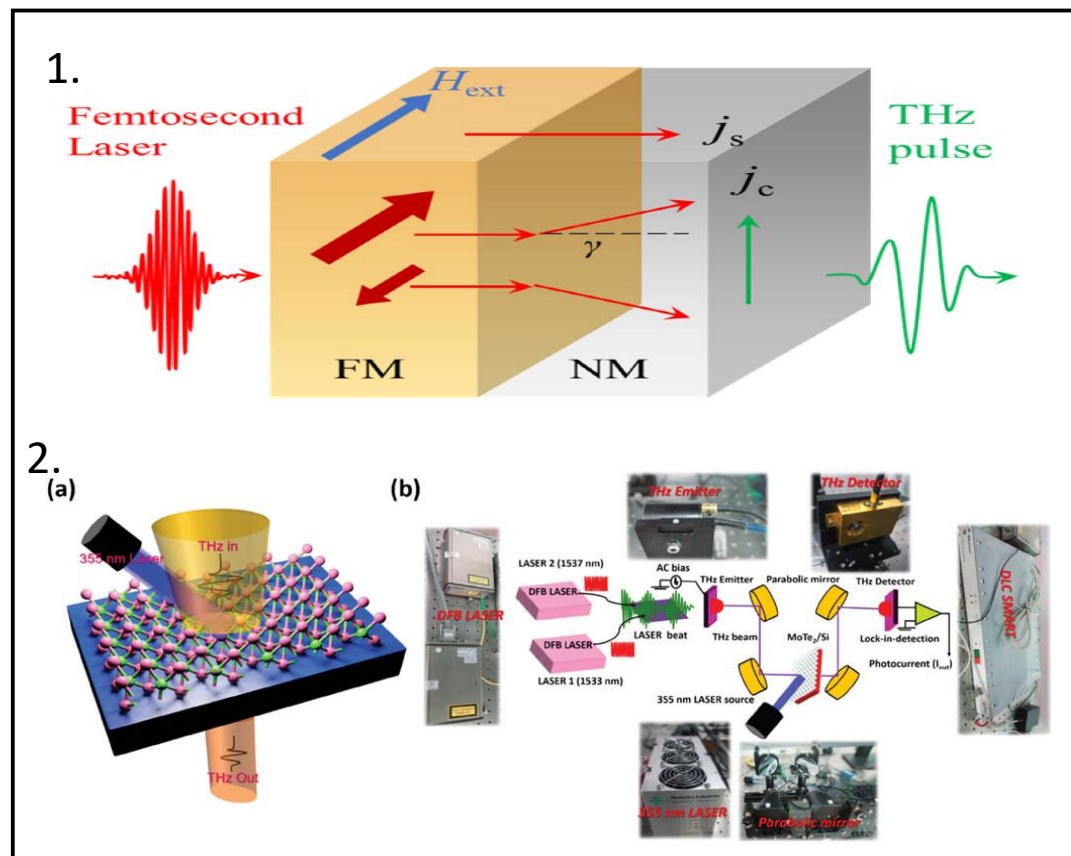


Fig: (1) Spintronic THz Emitter (2) Schematic diagram representing (a) 2D material-based THz amplitude Modulator (b) Experimental setup for THz modulation using laser.