

Quantum Optics & Quantum Metrology

Research interest:

- Atom-laser interactions
- Optomechanics
- Quantum noise and decoherence theory

Quantum devices of interest:

- Optical clocks
- Quantum lidar
- Quantum sensing beyond standard quantum limit

Research group:

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Ph. D students: Greeshma Gopinath, Sreeshna Subhash

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SRG/2020/001167 (2021-23)

Peer-reviewed Journal articles at BITS:

Quantum optomechanics without radiation pressure noise,
Sankar Davuluri, Optics Letters, 46,904:907, (2021)

Quantum back-action nullifying meter,
Sankar Davuluri and Yong Li, JOSA B 39, 3121 (2022)

Enhancing the force sensitivity of a squeezed light optomechanical interferometer
Sreeshna Subhash, Sanket Das, Tarak Nath Dey, Yong Li and Sankar Davuluri,
Opt. Exp., 31,177 (2023).

Continuous variable entanglement between propagating optical modes using optomechanics,
Greeshma Gopinath, Yong Li and Sankar Davuluri*, EPJ Quantum Technology, 11, 41 (2024)

Coherent population transfer with polariton states in circuit QED,
Madan Mohan Mahana, Sankar Davuluri, and Tarak Nath Dey, Phy. Rev. A 110, 023716 (2024)