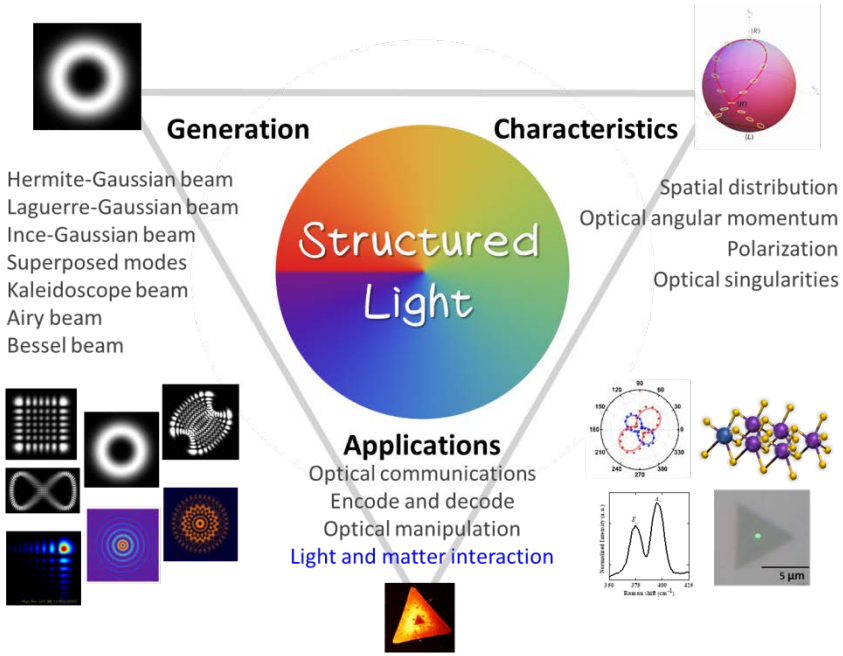
Department of Physics

Structured light and light-matter interaction

My researches include the structured light possessing spin and orbital angular momentum and its interaction of layered materials . We are studying various structured light and its applications, the optical properties (Raman scattering and photoluminescence) of layered materials, and physical phenomenon of the exciton excited by structured light.

Techniques used in study

Generation of structured light from laser cavities, vortex phase plates and a spatial light modulator
Raman spectroscopy and photoluminescence measurement
Spatial polarization detection and analyses



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Background:

PhD in Physics, National Chiao Tung University, Taiwan

Funding:

Ministry of Science and Technology

Publications

- Teng-De Huang, Kristan Bryan Simbulan, Yu-Fan Chiang, Yann-Wen Lan, and Ting-Hua Lu, “Symmetry breaking of in-plane Raman scattering by elliptically polarized light in MoS_2”, Phys. Rev. B 100, 195414 (2019)
- T. D. Huang and T. H. Lu, “Controlling an optical vortex array from a vortex phase plate, mode converter, and spatial light modulator”, Opt. Lett. 44, 3917 (2019)
- T. H. Lu, T. D. Huang and G. Y. Chiou, “Kaleidoscope vortex lasers generated from astigmatic cavities with longitudinal-transverse coupling”, Opt. Express 26, 31464 (2018)