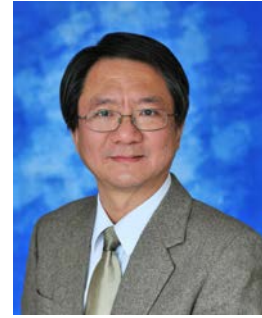


Prof. Dr. Shiu CHAO 趙煦



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Education

1976 BS. Physics, National Tsing Hua University, Hsinchu, Taiwan
1981 PhD Materials Science and Engineering, The University of Texas at Austin, USA

Employment

1981-1983 Senior Engineer, Optical Memory Group, Burroughs Corp. USA
1983-1984 Engineering Specialist, Ring Laser Gyro Group, Northrop Corp. USA.
1984- 1991 Associate Professor, E.E. Dept. National Tsing Hua University, Taiwan.
1991-present Professor, E.E. Dept./Institute of Photonics Technologies, National Tsing Hua University, Taiwan.
1994-1994 Visiting Scientist, Research Lab. Eastman Kodak Corp. USA.
1998-1999 Visiting Scholar, Edward Ginzton Lab, Stanford University, USA.
2003-2006 Director, Institute of Photonics Technologies, National Tsing Hua University, Taiwan.
2016-present Vice Dean, College of EECS, National Tsing Hua University, Taiwan.

Short Overview of Scientific Works

Optical memory – write once, magneto-optical, and phase-change optical disk.
Mirrors coatings for ring laser gyroscope
Non-linear optics – quasi-phase-match devices for non-linear conversion.
Silicon photonics – micro-ring electro-optical modulator on silicon.
LED – micro-mirror array for light extraction enhancement.
Current research focus: Mirror coatings for laser interference gravitational waves detector.

Awards

Special Breakthrough Prize in Fundamental Physics, 2016, as a member of LIGO & Virgo Collaborations.
Gruber Cosmology Prize, 2016, as a member of LIGO & Virgo Collaborations.
Photonics Engineering Prize, 2016, Taiwan Photonics Society.

Representative Publications

1. “Observation of Gravitational Waves from a Binary Black Hole Merger” B. P. Abbott et al (LIGO-VIRGO Collaboration). *PRL* 116, 061102 (2016).
2. “Technology for the next gravitational wave detectors,” Valery P. Mitrofanov, Shiu Chao, Huang-Wei Pan, Ling-Chi Kuo, Garrett Cole, Jerome Degallaix, Benno Willke, *Science China-Phys Mech Astron*, 58(12), pp.120404 (2015). (**Invited review paper**).
3. “Enhanced sensitivity of the LIGO gravitational waves detector by using squeezed states of light” Aasi, J, et al. (LIGO-VIRGO Collaboration). *Nature Photonics*, Vol.7, 613, Aug. (2013).
4. “Optical Coatings and Thermal Noise in Precision Measurement” *Cambridge University Press, ISBN 978-1-107-00338-5*, (2012), Edited by G. Harry, T. Bodiya, R. DeSalvo, Chap. 2 “Coating Technology” Shiu Chao. (**Invited book chapter**).
5. “Heat resistive dielectric multi-layer micro-mirror array in epitaxial lateral overgrowth gallium nitride,” C. Y. Huang, H. M. Ku, W. T. Liao, C. L. Chao, J. D. Tsay, and S. Chao,

- Optics Express*, 17, 5624–5629, (2009)
6. "Quasi-Phase-Matching Second-Harmonic-Generation in Ge-Implanted Fused Silica Channel Waveguide", Shiuh Chao, Yu-Hsien Yang, Huai-Yi Chen, Ze-wen Wang. *Optics Express*, vol. 13, pp.7091-7096, (2005).
 7. "Characteristics of Ion Beam Sputtered High Refractive Index TiO₂-SiO₂ Mixed Films" Shiuh Chao, Wen-Hsiang Wang, *Journal of the Optical Society of America A*, Vol. 16, No.6, 1477-1483, (1999).
 8. "Magnetic Domain Formation in Tb₂₃Fe₇₇ Thin Film on a Moving Magneto-Optical Disk with Magnetic Field Modulation Recording" Tzuan-Ren Jeng, Shiuh Chao. *IEEE Transactions on Magnetics* Vol. 32, No. 4, 3305-3312, (1996).
 9. "TiO₂-SiO₂ Mixed Films Prepared by Double Electron Beam Coevaporation Method" Jyh-Shin Chen, Shiuh Chao, Jiann-Shiun Kao, Huan Niu, Chih-Hsin Chen. *Applied Optics*, Vol. 35, No. 1, 90-96, (1996).
 10. "Multiple Phase Change of Lead Oxide Film for Optical Storage" Shiuh Chao, Yuh-Fung Huang, Yung-Chiey Chen, Lan Yan. *Journal of Physics D: Applied Physics*, Vol.23, 955-958, (1990).