NIR Tunable Short Pulse Fiber Lasers

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Biography

Nasser Peyghambarian is a Professor at the College of Optical Sciences and also at the Department of Materials Science & Engineering at the University of Arizona. He is the Chair of Photonics and Lasers and serves as Director of the NSF Center for Integrated Access Networks (CIAN). He is Chairman of the Board and Founder of NP Photonics, Inc and TIPD, LLC. He received his Ph.D. in solid-state physics from Indiana University in 1982, specializing in optical properties of semiconductors before joining the optics program at the University of Arizona. He is the recipient of the International Francqui Chair, Belgium 1998-1999. He is a Fellow of the Optical Society of America, the American Physical Society, Society of optical engineers, SPIE and the American Association for the Advancement of Science.

Technical Abstract

All-fiber lasers may be operated in the wavelength range covering from 1μm to more than 2 μm using dopants such as Er, Yb, and thulium. They may lase in cw or in pulsed modes. Here, we summarize our advances in wavelength tunable mode-locked fiber lasers with over 50nm tuning range using fiber taper based carbon nanotube (FTCNT) saturable absorbers (SA). Spectral tuning is achieved by stretching another fiber taper. Our recent progress in Raman-based fiber lasers will also be summarized.