
Chip-based Brillouin Processing for microwave signals processing

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Manipulating Radio Frequency (RF) signals in integrated photonic devices has recently emerged as a new paradigm for wireless communications, enabling high-frequency signal processing and broadband frequency agility in miniaturized photonic platforms. Recent progress in on-chip stimulated Brillouin scattering (SBS) using high gain has shown great potentials for RF photonic signal processing, owing to its inherent advantages of high resolution, high reconfigurability, and flexible programmability. I will provide a brief overview of recent advances achieved using SBS in planar waveguides for analogue and digital communications.



Short Bio:

Benjamin Eggleton is a Professor of Physics at the University of Sydney and recently appointed Director of the University of Sydney Nano Institute. His research interests lie in nonlinear optics, all-optical signal processing and nanophotonics. Eggleton is a Fellow of the Australian Academy of Science (AA), the Australian Academy of Technology and Engineering (ATSE), the Optical Society of America and IEEE. He was previously an ARC Laureate Fellow, was twice been an ARC Federation Fellow and served as the Director of CUDOS, the ARC Centre of Excellence for Ultrahigh-bandwidth Devices for Optical Systems (CUDOS) from 2003-2017. Eggleton has published 480 journal papers which have been cited 19,000 times (webofscience).