



Contribution ID: 202

Type: Poster

[822] Small footprint integrated optical parametric oscillator with a Fabry-Perot resonator

Tuesday 10 September 2024 19:46 (1 minute)

Optical parametric oscillators (OPOs) are key components for applications like squeezing and random number generation. Their dense integration on-chip would allow the realization of computational networks such as Ising machines. However, integrated OPOs to date feature millimeters long quasi-phase matching regions that are located inside racetrack resonators, resulting in large footprint devices. Here we present a thin film lithium niobate on insulator OPO for which the nonlinear region is placed in a linear Fabry-Perot cavity formed by two Bragg reflectors, which is more compact and greatly reduces the occupied area. The device features a 30 mW threshold power and a 30 nm bandwidth, limited by the mirrors reflection band.

Authors: SABATTI, Alessandra (ETH Zurich); KELLNER, Jost (ETH Zürich)

Co-author: GRANGE, Rachel

Presenter: SABATTI, Alessandra (ETH Zurich)

Session Classification: Poster Session

Track Classification: Photon Science