

LABORATORI NAZIONALI DEL GRAN SASSO

SEMINAR ANNOUNCEMENT

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**“Toward a low-cost c-band emitting
organic laser:
erbium-tris(8-hydroxyquinoline)
in a distributed feedback cavity”**

Abstract

A low-cost c-band emitting Distributed Feed-Back (DFB) waveguide cavity with Erbium-tris(8- hydroxyquinoline) has been fabricated, and its structural, morphological and optical properties have been studied. The DFB cavity consists of a large area (8764; 8 mm²) 1-dimensional grating of Polymethylmethacry-late on Si (100) fabricated by X-ray Interference Lithography with a laboratory-scale apparatus. On-grating narrowing of the infrared photoluminescence emission is observed for 492 nm grating period in correspondence of the 4f - 4f Er band peak (at 1530 nm), indicating the possibility of gain at the selected wavelength.

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