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**Séminaire Foton / équipe Systèmes Photoniques
le lundi 24 février 2014, 9h-10h (salle 110I)**

Waveguide lasers in fluoride epitaxial layers for integrated optics applications

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For laser applications, crystalline fluoride materials offer some advantages with respect to oxides and glasses. Because of their large band-gap, fluorides exhibit large transparency windows that allows doping with different rare earth ions. Their low phonon energy avoids, in the case of RE^{3+} doping, considerably reduction in radiative multiphonon relaxations between adjacent RE^{3+} energy levels, allowing optical transitions in a broad spectral range with a high fluorescence quantum efficiency and limited thermal loads. Last but not least, their thermo-optic coefficients are negative, which compensates for thermal lensing during laser operation. These properties together with the high intensity confinement in waveguides, make fluorides attractive for the fabrication of waveguide lasers for applications in different spectral ranges. This talk will present the recent advances in fluoride waveguides fabricated by liquid phase epitaxy.