

Abstract:

This seminar will review our and our colleagues' recent work on optical planar and channel waveguides in sapphire and Ti:sapphire as well as rare-earth-ion-doped  $\text{KY}(\text{WO}_4)_2$  and  $\text{Al}_2\text{O}_3$ .

Growth by liquid phase epitaxy, pulsed laser deposition, or sputtering, structuring and refractive-index modification by reactive ion etching, ion beam implantation, focused ion beam etching, and femtosecond laser writing, optical waveguide characterization by propagation-loss, dark m-line, and luminescence measurements, as well as applications as waveguide lasers and broadband light sources for interferometry will be discussed.