



**DIPARTIMENTO DI FISICA "E.Fermi"**  
UNIVERSITÀ DI PISA  
**CORSO DI DOTTORATO IN FISICA**  
Largo B.Pontecorvo,3 - Edificio B-C  
56127 PISA - ITALY

**CORSO DI DOTTORATO IN FISICA**  
**AVVISO DI SEMINARIO**

**Martedì 14 Settembre 2010**  
ore 11:30

**Dipartimento di Fisica**  
**Sala 248 - I piano - Ed. C**

**Prof. M.Eichhorn**  
*French-German Research Institute  
of Saint-Louis (ISL) - France*

**"Quasi-three-level solid-state lasers in  
the near and mid infrared"**

Abstract: This talk gives an overview on current research activities on quasi-three-level lasers at ISL. An introduction to the thermal properties of these lasers will be given. A spectral theory will be presented which allows the calculation of temperature-dependent spectral properties of rare-earth doped crystals on the example of Er:YAG. This allows complex modeling of these lasers including temperature dependence. Several experimental research activities from 1.6  $\mu\text{m}$  to 4  $\mu\text{m}$  will be presented, including the Er:YAG solid-state heat-capacity laser, Tm- and Tm/Ho fiber lasers as well as modeling results on a 4  $\mu\text{m}$  holmium laser.

M.Tonelli