

Colloquia

www.physics.bilkent.edu.tr

SPRING 2015

Jens Limpert

Friedrich Schiller University Jena, Jena Germany

High Performance Ultrafast Fiber Laser Systems:
Properties, Challenges and Potential

day

APR 29, 2015 WED

location

MITHAT CORUH HALL

time

15:40

ABSTRACT

In recent years intense laser pulses have found applications in various industrial and scientific areas. Significant progress has been made in scaling the energy of the pulses as well as the average power. However, different amplification schemes have been pushed to their specific limits, caused by detrimental nonlinear effects, by damage or by the occurrence of thermo-optical effects. New concepts have to be considered to address these issues and to enable new application fields. In that context, I will review the basics and achievements of coherent combination of amplified femtosecond pulses, a concept which has already out-performed single aperture femtosecond laser systems and which allows for a scaling to unprecedented performance levels, i.e. the combination of highest peak power (Petawatt) and highest average power (Megawatt).

The Physics Colloquia are designed to address a non-specialist, broad audience and introduce topics of contemporary research through lectures by leading experts. We warmly invite all members of the student body, including undergraduates enrolled in any programme.

www.physics.bilkent.edu.tr