CFEL SCIENCE

SEMINAR

7th August 2013 - 04:00 p.m.
Building 99, seminar room IV (O1.111)

Klaus Ertel

STFC Rutherford Appleton Laboratory, Didcot, UK

The DiPOLE project: a test bed for high average power pulsed lasers

Kilojoule and petawatt-class lasers for laser-plasma-interaction research have so far been based on flashlamp-pumped Nd:glass amplifiers.
Emerging applications like laser-driven particle accelerators and laser fusion energy require laser sources with much higher repetition rate and efficiency than achievable with conventional technology. With DiPOLE we have demonstrated a scalable amplifier architecture based on cryogenically cooled, diode pumped Yb:YAG. Results obtained so far with this small-scale prototype suggest confirm the viability of this approach, enabling the generation kJ-level pulses at repetition rates of 10 Hz and beyond.

Host: Franz X. Kärtner, CFEL UX Seminar