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Research on ultra-short timescales - LCLS and the X-ray Free Electron Laser

Thursday 27 June 2013 09:15 (45 minutes)

With peak brightness ten orders of magnitude higher than any other X-ray source and pulses as short as a few femtoseconds, Free Electron Lasers

(FELs) have opened new regimes in photon science. This talk will begin by describing the basic principles behind X-ray FELs and the accelerator performance requirements that make them possible, using SLAC's Linac Coherent Light Source (LCLS) as an example. The rest of the talk will focus on new ideas for upgrading future FELs, including coherent control of the radiation, miniaturization, and the push towards the TW power level.

Presenter: Dr RATNER, Daniel (SLAC)