SAIP 2011

Contribution ID : 168

Current Status of Ultrafast Electron Diffraction at the Laser Research Institute

Thursday 14 Jul 2011 at 17:00 (02h00')

Content :

We will show the changes and improvements made to the Ultrafast Electron Diffraction setup which led us to doing the first time-resolved experiments. We have implemented beam tracking and correction systems in both the pump and probe beams, ensuring that we keep spatial overlap during a measurement. By using a different cathode and metal coating we were able to improve the electron efficiency. These improvements enable us to do measurements of up to 20 hours without losing the electron signal.Preciously a commercial 8-bit Nikon camera was used to gather data. We have switched to a 16-bit EHD CCD Camera to increase the amount of information we get from one data point.Previous problems concerning the background were solved by reducing the electron energy and applying a small voltage to the sample holder to prevent photo electrons from reaching the detector.A big challenge in UED is the preparation of thin (<100nm) samples. We will show the techniques we use to overcome this problem.

Level (Hons, MSc, PhD, other)? :

MSc

Consider for a student award (Yes / No)? :

Yes

Short Paper :

No

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