Contribution ID: **168** Type: **Poster Presentation**

Current Status of Ultrafast Electron Diffraction at the Laser Research Institute

Thursday, 14 July 2011 17:00 (2 hours)

<p>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

Would you like to <br> submit a short paper <br> for the Conference
 Proceedings (Yes / No)?

No

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