Processing Experimental LEED Data to Obtain I(V) Curves

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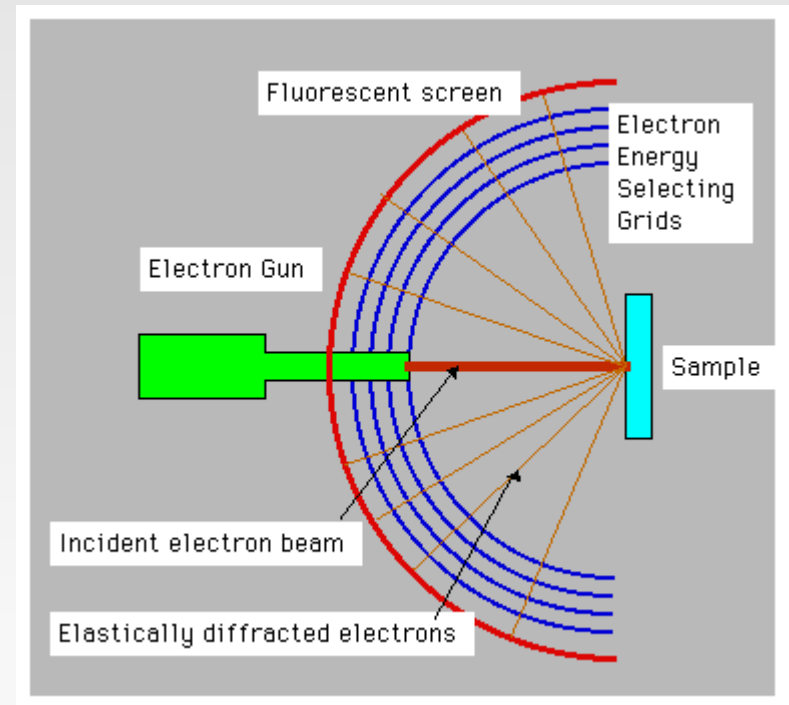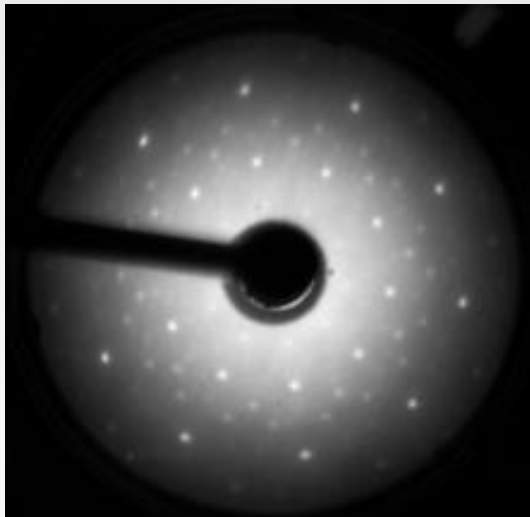
Dr. Von Nascimento, Louisiana State University

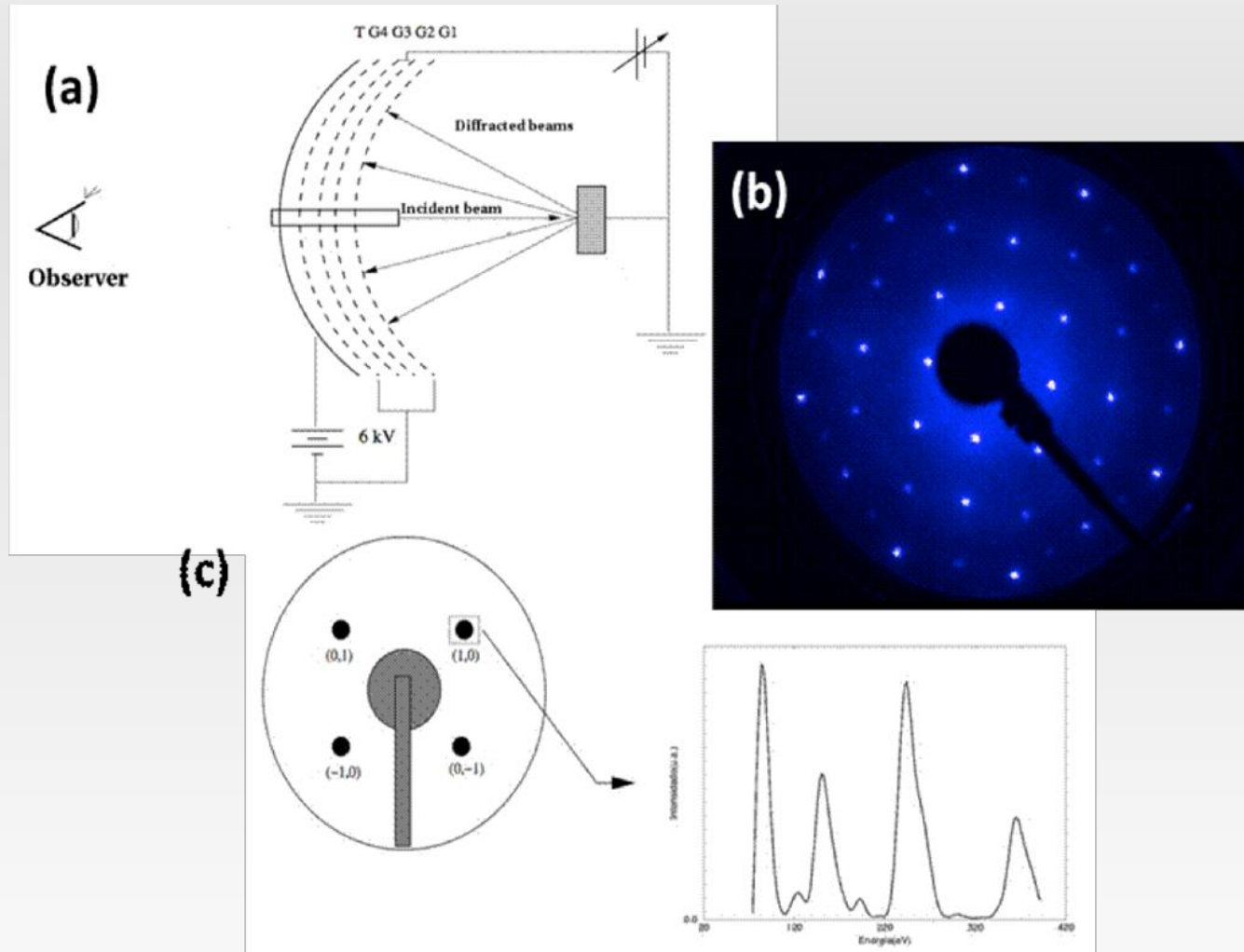Dr. Ward Plummer, Louisiana State University

LSU LA-SiGMA 2011 REU

LEED Experiment

- Low Energy Electron Diffraction
- Surface structure determination
- LEED pattern

I(V) Curves

Project

- Create a program to obtain experimental I(V) curves from data collected during LEED

- Create a GUI for users to select intensity spots with cursors and produce intensity profiles

Our Program

- Open LEED image

- Select intensity points

- Draw line

- Collect intensity data along line

- Create a file containing intensity data

- Create intensity profile using Gnuplot

Results, Goals, and Development

- Results and Development
  - Program to create an intensity profile
  - Linux, Python, LEED, physics, programming
- Goals and Future Work
  - Polishing the program
  - Background subtraction
  - Collect intensity for varying energies
  - Create I(V) curve