

Facilities and Resources at The Ohio State University

- **Major Equipment:**

1. Charge Measurement and Irradiation test facilities including:
 - (a) 1.0 and 0.5 mCi ^{90}Sr source
 - (b) 500 MHz/1GS/s Digital Scope (Tektronix TDS 540)
 - (c) 2 GHz/10GS/s Digital Scope (LeCroy Waverunner 6200A)
 - (d) Computer controlled power supplies (1000V Kepco BOP1000M)
 - (e) PC based readout/data acquisition system
2. Automatic probe station (Karl Suss AP6) including:
 - (a) Microscope with CCD camera and 21" Sony display
 - (b) Precision LCR meter (HP 33120A)
 - (c) Electrometer (Keithley 627)
 - (d) Electro-optical pulse generator (BNC 6040)
 - (e) Computer controlled power supply (HP 6634A)
 - (f) PC for computer control
3. Manual probe station (Karl Suss) including Stereo Zoom 6 microscope
4. Automatic (K&S 1420, K&S 8060) and Manual (K&S 4123) wirebonders
5. Optical comparator (Nikon V-12) and Optical measuring system (Mitutoyo QV 404)
6. Photolithography and Deposition facilities including
 - (a) 8000 rpm photoresist spinner with vacuum holddown (Laurell WS-400B-6NPP)
 - (b) UV exposure system with Zeiss Stemi2000-C microscope (constructed)
 - (c) Projection lithography system with Olympus BH2-MJL microscope
 - (d) Kurt Lesker 3-source evaporator for Chromium, Aluminum and Gold
 - (e) Angstrom Engineering 3-head sputter machine for Ti, TiW, W, Pt, Al and Au
 - (f) Acid etching system (constructed) for Cr, Ti, TiW, W, Pt Al, Au
7. IV measurement setups (3) with Keithley 6517A Electrometer and computer control
8. VME-bus based data acquisition system including
 - (a) Motorola PowerPC CPU modules
 - (b) Embedded system software
 - (c) Multi-channel logic analyzer
 - (d) Development system for field programmable gate arrays (FPGA)
9. Clean Room (constructed)

- **Laboratory Space:** A 900 sq. ft. laboratory (PRB 3147) has been allocated for this project. The laboratory is located in the Physics Department at the Ohio State University.
- **Additional Information:** The Ohio State Physics Department supports a machine shop (4 instrument makers/machinists) and an electronic shop (2 electrical engineers). We have full access to both the mechanical shop and the electronics shop.

Facilities and Resources at the UCLA

- **Major Equipment:**

1. Test Stand Equipment:
 - (a) 500MHz/1GS/s Digital Scope
 - (b) High voltage source measure unit (Keithley 237) and electrometer (Keithley 6517A)
 - (c) PC based readout/data acquisition system
2. Computing resources:
 - (a) 50 CPU computing farm supported by UCLA ATS Center.
 - (b) 5 TB disk server

- **Additional Information:**

1. We have adequate laboratory space available at UCLA and we have purchased computer equipment using startup funds.
2. The UCLA Physics Department supports a state of the art machine shop and an electronics shop with an electronic engineer (Y. Shi) whose hourly rates are partially subsidized by the department. We have access to an additional engineer (J. Kubic) on a fee-for-service basis who works for the high-energy physics group.