

## **BUDGET JUSTIFICATION**

### **A. SENIOR PERSONNEL**

0.13 calendar months of salary is requested for PI Craig Kulesa. His base salary is \$58,131 per 12-month fiscal year.

### **B. OTHER PERSONNEL**

N/A

### **C. FRINGE BENEFITS**

The following university-approved fringe benefit rates were applied to each labor category:

- Faculty/Appointed Personnel: 28.6%

### **D. CAPITAL EQUIPMENT**

N/A

### **E. TRAVEL**

N/A

### **F. OTHER DIRECT COSTS**

Funds are requested in each year for research supplies and work-flow/data capture and telecommunications expenses required for the conduction of this investigation. These operational items represent the material costs of creating, replicating, archiving, distributing and presenting all project related data, documentation, reporting, and analysis that are directly related to this project. Such material costs include, but are not limited to, disk drives, poster printer costs, and design and analysis software.

Funds are requested for two solid state disks to replace the standard spinning hard drives in the Supercam data acquisition computer, as spinning hard drives will not operate at 17,000 feet. Costing is based on the current market value of two Intel S3500 solid state drives of 600 GB capacity.

Funds are requested to deliver the mechanical mounting interface for the Supercam cryostat to the instrument mounting ring at the APEX telescope. Costing is based on the 150 design & machining hours estimated for this task. The needed optical interfaces for APEX (HDPE lenses) are also budgeted at the 35 machining hours level.

Basic packing materials and 'less than container' shipping costs to Chile, 'door to port' are included and based on actual costs accrued for this team's shipping of

submillimeter instrumentation abroad, and on a quoted ocean shipping cost (attached).

#### **G. INDIRECT COSTS**

The university federally negotiated indirect cost rate of 52.5% was applied to all costs except capital equipment and 50.0% of the graduate student fringe benefit rate, which is tuition remission and exempt from IDC.