

IRLabs

Infrared Laboratories

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Big Bear Solar Observatory
40386 North Shore Lane
Big Bear City, CA 92315

ROM # _BBSO01CA090121_

ITEM PART / DESCRIPTION / DETAIL

- 1 Custom mechanically cooled 1024 x 1024 InSb camera which includes the following features:
 - Vacuum Enclosure, ~ 62.0" x 24.0" x 24.0 (internal dimensions) tall with internal aluminum optics plate, radiation shield, and rigid supports system.
 - Two (2) Sumitomo cryo-coolers. A single stage for cooling the FPA, a dual stage for the optics plate and shield
 - Reduced custom low vibration mounting system for cryo-coolers (Internal and external)
 - Raytheon 1024 x 1024 Science grade ALADDIN InSb array, and bare MUX
 - Thirty-two (32) output FPA controller electronics with external cabling
 - Custom InSb Array mount on a motorized focus adjustment slide. Includes internal cryogenic motor and slide mechanism.
 - Custom ALADDIN sister/fan-out board with spring load socket.
 - Temperature controlled stage for array mount. Base temperature of array prior to temperature control < 30K (System does not include the temperature controller)
 - Internal 10 position motorized filter wheel, with low background modification. Filter size 1.0" x 0.250" deep
 - Motorized Turret/rotation mechanism for grating/mirror
 - Rack mount motor drive controller with power supply, drivers, and indexer installed for three (3) motors
 - Three silicon diodes (temperature sensors)
 - One on temperature controlled stage
 - One on optics plate
 - One on shield (NOTE: the optic plate and shield sensors will be on removable mounts, so that customer may position the sensor at their desired locations)
 - Caf2 window, 2.0" diameter, CA= 30 mm
 - FOV Baffling on shield
 - All internal wiring, array, motors, and housekeeping
 - Hermetic electrically connectors installed on deep pocket vacuum flanges for all required functions (array-2 each—motor, and housekeeping)
 - Internal wiring heat sinks so that entire cable assemblies can be removed thru the opening in the case without de-soldering any connections.
 - Integration, testing and documentations (Does not included optical alignment or installation of customer supplied optical components)
 - Custom Dewar Cart
 - Custom wooden shipping containers

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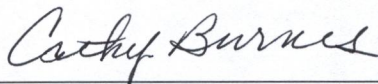
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The ROM DOES NOT include:

- Optical mounts or optics
- Optical alignment
- Installation of any optical components, less Caf2 window
- Internal FOV baffling for low-background of FPA
- Temperature controller for stage
- Full Integration of FPA
- System set-up at Big Bear Solar Observatory

Delivery estimated at 12 month after ARO and approval of preliminary design.
Progress payments MAY be required.

TOTAL ROM PRICE \$ 760,380.00



Cathy Burnes, Contracts Manager