

# SDL-XR

## SPACE DYNAMICS LABORATORY TRANSFER RADIOMETER

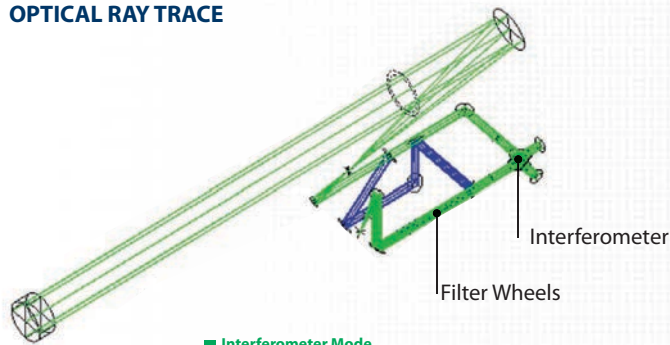


Used for high-accuracy calibration of IR sources, the SDL-XR is an IR transfer radiometer with two modes of operation: **RADIOMETER MODE** includes various narrow and wide band IR filters for high accuracy radiometric measurements.

**INTERFEROMETER MODE** is used for spectral characterization of sources.

With its two modes of operation and large-scale spectral range, the SDL-XR provides superior calibration accuracy when compared to other transfer radiometers.

### OPTICAL RAY TRACE



Selected with flip in mirrors (bypasses interferometer)

### OPERATING CONFIGURATIONS

- Can operate in a laboratory environment with a KBr window at the entrance.
- Can mate directly to other equipment.
- Can operate inside larger TVAC (thermal vacuum) chambers.

### SPECIFICATIONS

<b>ENTRANCE APERTURE DIAMETER</b>	65 mm (2.56")
<b>FIELD OF VIEW</b>	1 mrad
<b>SPECTRAL RANGE</b>	2 - 30 $\mu\text{m}$
<b>SPECTRAL RESOLUTION</b> (INTERFEROMETER MODE)	4 $\text{cm}^{-1}$ (upgradable to 0.5 $\text{cm}^{-1}$ )
<b>OPTICAL FILTERS</b>	28 filters (4 filter wheels with 7 filters per wheel). Filters include ND filters to increase the dynamic range and spectral filters to select the bandpass.
<b>ADDITIONAL INFORMATION</b>	SiAs bib detector operated at 11 K (LHe cooled).  Optical bench operates at < 20 K to maintain a low background.

The design can use existing interface hardware to be calibrated at NIST's LBIR (low background IR) calibration facility.

### WEIGHT & DIMENSIONS

<b>LENGTH</b>	64"
<b>HEIGHT</b>	48" (above support)
<b>WIDTH</b>	37"
<b>VACUUM SKIN OD</b>	20"
<b>WEIGHT (RADIOMETER)</b>	620 Kg (1,370 lbs)
<b>WEIGHT (WITH CART)</b>	1,000 Kg (2,200 lbs)



**Space Dynamics**  
LABORATORY  
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