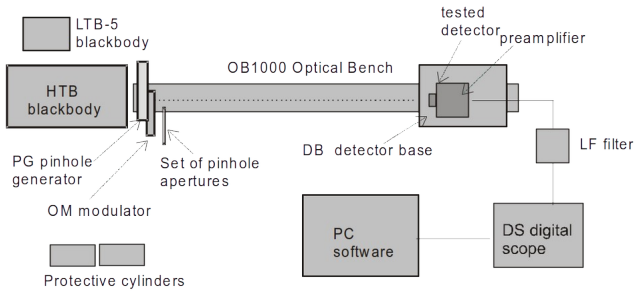
TRAK

Station for radiometric tests of IR discrete detectors

Fig. 1. Photo of TRAK station



1 What is TRAK?

Inframet manufactures advanced test station coded TRAL based on multi grating monochromator for testing discrete optical detectors (or small linear array) capable to measure responsivity, normalized detectivity D* of IR detectors sensitive SWIR, MWIR and LWIR band. Measurements can be carried out at any wavelength of this spectral range and spectral sensitivity characteristic can be determined. Therefore TRAL is perfect choice for universal station for testing optical discrete detectors. However, TRAL is also a costly test system. Therefore Inframet offers also a cheaper simple solution in form of TRAK station.
TRAK is a test station based on high temperature blackbody enables directly only measurement of such parameters like blackbody responsivity blackbody detectivity, dark current. However, if relative spectral sensitivity is known or at least estimated then new set of absolute parameters can be calculated: responsivity, normalized detectivity measured directly by TRAL station. Therefore TRAK can be treated as cheap substitute of expensive TRAL spectral station.

2 How TRAK is built?

TRAK is a set of blocks:

1. HTB-25D-1200 high temperature blackbody
2. OB1000 optical bench
3. OM optical modulator
4. PG pinhole generator
5. Set of pinhole apertures
6. Set of protective cylinders
7. DB detector base
8. Set of preamplifiers
9. LF filter
10. PC set
11. TRAK software.

3 How TRAK works?

TRAK station irradiates the tested detector using high temperature HTB blackbody as calibrated source. Detector irradiation can be regulated by changing blackbody temperature, distance blackbody-detector, or using pinhole aperture reductors. Radiation emitted by HTB blackbody can modulated using OM modulator (chopper). Electrical signal from detector is amplified and later analysed. Such parameters like blackbody responsivity blackbody detectivity, dark current are calculated by software.

Version 1.2

CONTACT: Tel: +48 22 6668780 Fax: +48 22 3987244 Email: info@inframet.com