Name of the Technology/Product : Infra Red Based Snow Surface Temperature Probe

Laboratory Name	CSIR- Central Scientific Instruments Organisation (CSIR-CSIO), Chandigarh
Brief Profile of Technology/Product	Prediction of Avalanche occurrence demands the measurement of snow and meteorological parameters of the avalanche formation. For this purpose, specific kind of state of the art instruments and systems are needed. These must be capable of unmanned data collection from highly inaccessible areas in deep Himalayas. All the objects emit infrared radiations, which is generated by vibrations and rotations of atoms and molecules within the matter. As the temperature of the object increases, the molecular activity in the object increases causing the object to generate more energy. By using this concept CSIO has designed and developed an Infrared technique based snow surface temperature sensor which measures the snow surface temperature using non contact remote sensing method. It can be easily interfaced with any automatic weather station. Salient features: • Weather proof mechanical design. • Probe can be directly interfaced to different Data Acquisition Systems. • Operable 100% RH and wind speed of the order of 200 Km/h. • ±50ºC Measurement Range with 0.1ºC Resolution, ±0.5ºC Accuracy & ±0.1ºC Repeatability. • Spectral band pass: 8 < wavelength < 14 µm • 4°Field of View • Sighting: Line of sight • 0 to +5Vdc Output signal • Response time: 0.25 second • 10.5 to 14.0 Vdc, 20mA operating power
Returns/Benefits	Snow Cover Modeling for Forecasting of Snow Avalanche, Flood & Water Rise
Validation Level	Engineering unit
IPR Status [also indicating the status of the patent (if any) in 2015]	No patent is applied so far

End product price (if not available, estimated price)	Approx. Rs. 2,00,000/-
Technology/Product Collaborator	In-house development under SASE-DRDO sponsored project
Relevance of Technology in present times	It used to measure snow surface temperature of glaciers round the clock.
Similar technology/product developed	Available in international market.
Picture of the technology/product (if any, with good resolution)