Measurement of internal transmittance and refractive index of optical glasses at cryogenic temperatures

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Abstract

The authors have developed a unique Cryogenic Vacuum facility for measuring the temperature dependency of internal transmission and refractive index of optical glasses at cryogenic temperatures. The sample temperature can be set in the range 35 K – 375 K and the wavelength range covered using a combination with different instruments is currently 180 nm – 25,000 nm. This poster gives a short description of the facility and some results obtained on optical glasses that where selected by the European Space Agency for instrument development for future scientific missions.

Keywords: refractive index, internal transmittance, cryogenic, optical

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