

# Crystalline Grating-Waveguide Resonant reflectors

*Thursday, 1 September 2022 16:30 (15 minutes)*

We report the fabrication and first demonstration of crystalline grating waveguide reflectors comprising a Sc<sub>2</sub>O<sub>3</sub> waveguide grown on a sub-wavelength-patterned sapphire substrate. Operating in the 1- and 2-micron regime, distinct TE- and TM-polarisation resonances were obtained, with reflectance approaching 50% at 7° incident angle from a single waveguide and GWS.

**Primary authors:** MOURKIOTI, G. (Optoelectronics Research Centre, University of Southampton, Southampton, SO17 1BJ, United Kingdom); GOVINDASSAMY, G.A. (Fraunhofer Centre for Applied Photonics, Glasgow, United Kingdom); LI, F. (University of Eastern Finland, FI-80100 Joensuu, Finland); EASON, R.W. (Fraunhofer Centre for Applied Photonics, Glasgow, United Kingdom); AHMED, M. Abdou (Institut für Strahlwerkzeuge, University of Stuttgart, 70569 Stuttgart, Germany); MACKENZIE, J.I. (Fraunhofer Centre for Applied Photonics, Glasgow, United Kingdom)

**Presenter:** MOURKIOTI, G. (Optoelectronics Research Centre, University of Southampton, Southampton, SO17 1BJ, United Kingdom)

**Session Classification:** FWD 4 Spectral control and tuning