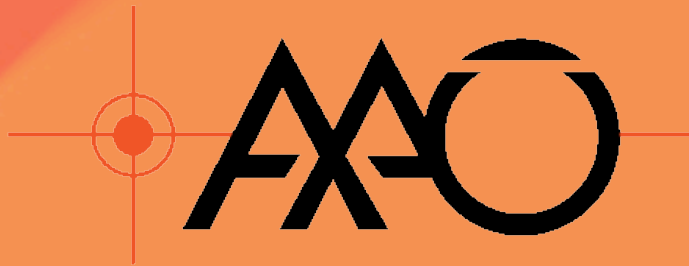


Light loss mechanisms in optical fibres used for astronomical instrumentation.



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A yellow triangle pointing right, filled with a pattern of small yellow circles. Red lines radiate from the bottom-left corner of the triangle.

CUDOS

MQ Photonics
Macquarie University Research Centre
... incorporating the Centre for Lasers and Applications

An ARC Centre of Excellence

Centre for Ultrahigh bandwidth Devices for Optical Systems

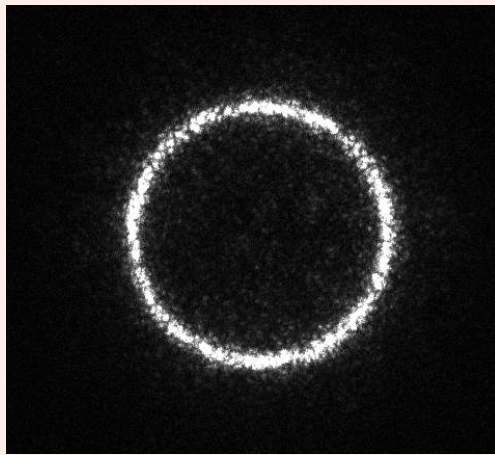


Australian Government
Australian Research Council



The University of Sydney



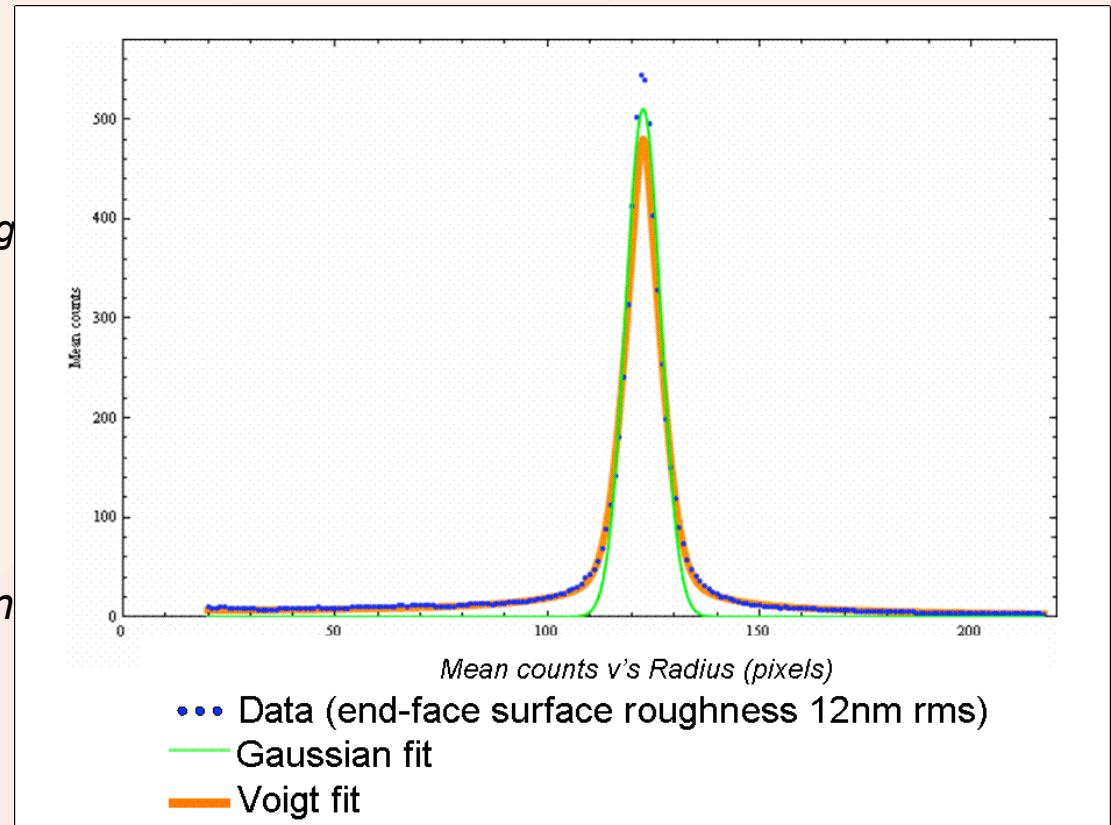


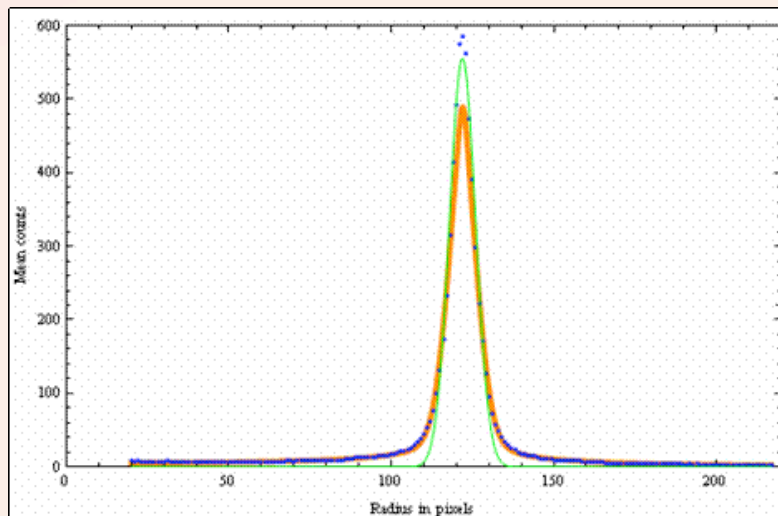
$\delta = 12\text{nm rms}$

*Extract data using
FRD image
processing code*

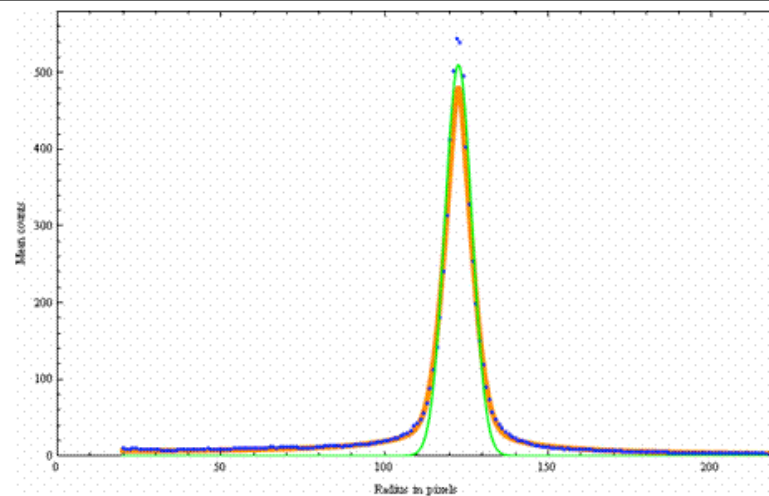


*Fit data using
Chi-squared
minimisation in
Mathematica*

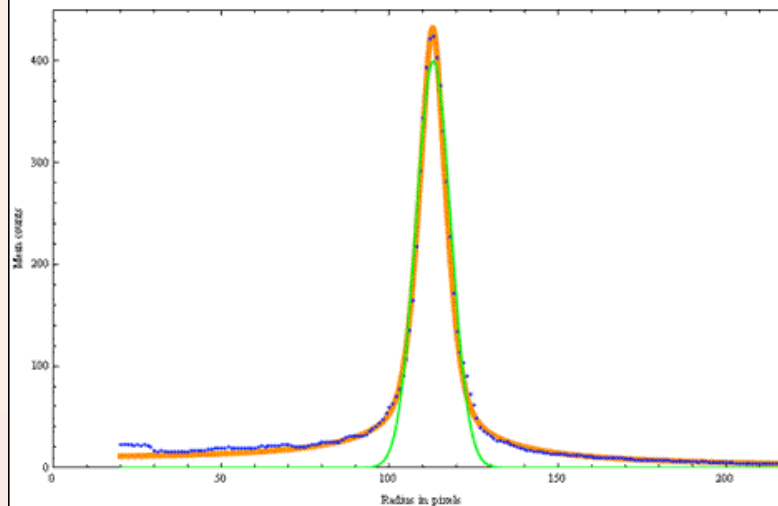




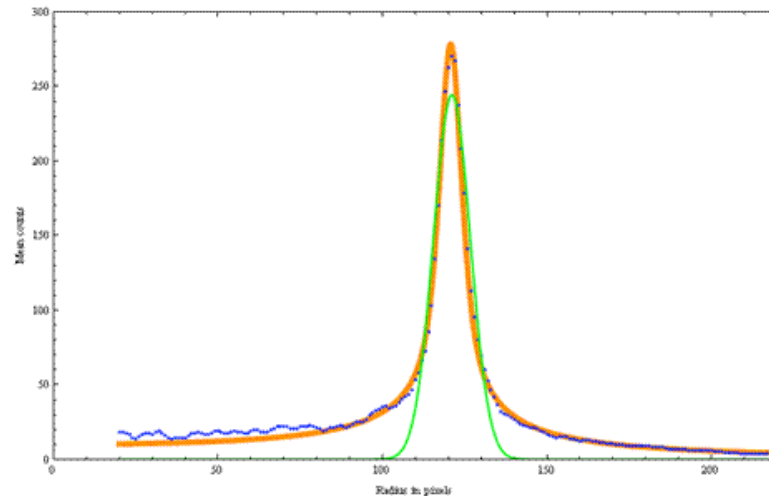
Surface roughness 8nm rms



Surface roughness 12nm rms



Surface roughness 164nm rms



Surface roughness 245nm rms

Blue – Observed data Green – Gaussian fit Orange – Voigt fit