



DIAMOND FROM THE SKY

X-Band Stripmap SAR Measurement - Quad Polarisation Composite Image.
Red = Vertical Polarisation | Green = Horizontal Polarisation | Blue = Cross-Polarisations

Harwell Science and Innovation Campus , Fermi Ave, Didcot, OX11 0DE



BRANDON CORBETT
Researcher

Antennas & Ground-based SAR (AGBSAR) Laboratory
Electronic Warfare, Information & Cyber
Cranfield Defence & Security

b.corbett@cranfield.ac.uk



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Brandon Corbett, Cranfield University

Daniel Andre, Centre for Electronic Warfare, Information and Cyber, Cranfield University

The image presented is an example of a high resolution airborne Synthetic Aperture Radar (SAR) collection, covering a 1km x 0.6km area above the Harwell Science and Innovation Campus, and includes the UK's synchrotron Diamond Light Source.

The data was collected using Airbus' X-band quad-polarised SAR airborne platform. In total there were 55609 measurements along the aircraft trajectory, equating to 14GB of measurement data. This raw data was then processed into SAR imagery using parallel processing of the back-projection image formation algorithm using Cranfield University's High Performance Computing facility.

The image is a colour composite combining all 4 polarisations. Red represent the vertical polarisation (VV), green represents the horizontal polarisation (HH) and blue is the sum of the cross polarisations (VH and HV). The result is an extremely detailed 30000x18000 pixel SAR image.

High resolution datasets like this aid in the development of new image formation and analysis algorithms and provide the user with a clean and clear reference to work with.