Microwave Data Analysis Software (MIDAS)

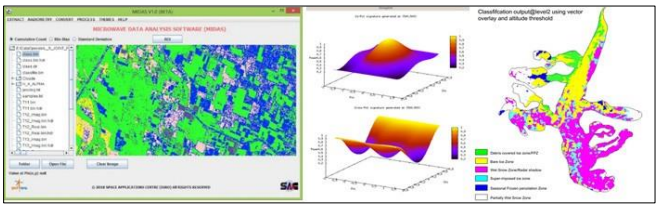
Main GUI of MIDAS software MIDAS is copyrighted with registration number 13609/2020

Space Applications Centre (SAC) has developed in-house Microwave remote sensing data analysis software called Microwave Data Analysis Software (MIDAS). MIDAS is conceived and designed, to cater to various application driven analysis methods to analyse microwave remote sensing data. Currently it caters to SAR data analysis only, which includes different decomposition techniques for Full Polarimetry (FP) and Hybrid/Compact Polarimetry (CP). The software tool also has functional modules for doing radiometric quality analysis and impulse response analysis.

It has different speckle filters for SAR specific noise removal. It also includes techniques for glacier classification and facies detection, oil spill detection, ship detection etc. This software has been designed in a modular fashion to support new sensor data interfaces and the required application algorithms. Besides supporting ISRO sensors, MIDAS additionally, supports various SAR missions of other space agencies such as ALOS-1, RADARSAT-2, NASA-JPL UAVSAR and Sentinel-1.

Main Capabilities:

- Written in C/C++
- Capable GUI in JAVA with Integrated image viewer.
- Polarimetric speckle filters integrated along with 11 amplitude filters
- Fast, modular and easily extensible
- Support for full-pol decompositions include H-A-Alpha, Pauli, Yamaguchi, Freeman-Durden and Raney (CP decomposition) etc.
- Full-pol Vanzyl type polarization response (Polarimetric signature) generation module.
- ROI handling along with Wishart supervised classifier.
- Tools for Radiometric analysis & Impulse Response analysis.
- Sigma0, Gamma0 modules.



3D Point Cloud Depth Map Using this Camera

Technology Transfer from ISRO

ISRO is willing to offer the knowhow of this technology to suitable entrepreneurs / industries in India. Capable manufacturing industries interested in acquiring this knowhow may write with details of their present activities, requirements and plans for implementation, infrastructure and technical expertise available with them, their own market assessment, if any, and plans for diversification to the address given below: