

**2025 IEEE Radar Conference (RadarConf25), Krakow, Poland, 4-10 October 2025**

**Radar backscatter extraction from high resolution C-band airborne SAR measurements**

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In this paper backscatter extraction and analysis from high-resolution, C-band, airborne Synthetic Aperture Radar (SAR) data acquired by the DSI CSIR SAR system are presented. First key aspects related to the radiometric calibration of SAR systems are described and related to the strategy used to calibrate the DSI CSIR SAR system. Backscatter statistics measured at slant- and cross-range resolutions of 0.5 m and 1 m, respectively are then presented for farmland and informal urban clutter types. The latter represents an important clutter type for urban sprawl monitoring for which little high-resolution C-band clutter measurements have been presented in literature. The measured mean backscatter results are shown to align well with published data, verifying the system's radiometric calibration. Amplitude distribution model fitting indicates that Rayleigh and Log-Normal distributions show good fits for farmland and informal urban clutter, respectively. Extracted amplitude model parameters for both types of clutter are presented.