Development of Circularly Polarized Synthetic Aperture Radar (CP-SAR) onboard Microsatellite

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In this paper, a microstrip and microstripline antenna system for microsatellite onboard circularly polarized synthetic aperture radar (CP-SAR) sensor, were investigated to radiate a circularly polarized wave. These antenna system have a simple, thin, conformal and strong configuration to generate left-handed circular polarization (LHCP) and right-handed circular polarization (RHCP). The transmitter and reception are working in RHCP and RCHP+LCHP, respectively. The CP-SAR is employed to generate the axial ratio image (ARI). The proposed antennas are analyzed by Method of Moment (MoM) and Finite Element Method (FEM) to obtain the good performance of CP-SAR. The microsatellite onboard antennas and prototype of CP-SAR antenna system are introduced in this paper.