

ABSTRACT

Synthetic Aperture Radar (SAR) is one of imaging technologies based on signal processing. Purpose of SAR signal processing is to minimize antenna size. Small sized antennas can give result as good as longer antennas. The concept of SAR is combination between range and azimuth. On range axis, radar transmit pulsed which receiver record delay time and range between radar and target. On the other hand, azimuth axis, target operate parallel with radar movement. SAR simulation result obtained from combining range and azimuth.

For simulation and modelling, specification of PALSAR satellite will be used. The specification is center frequency 1,27 GHz, bandwidth 28 MHz, and working on 628 kilometers above earth.

The result of modelling signals shows that LFM Chirp resolution after matched filtering is the best one, the second is rectangular pulse, and last is limited band Gaussian White Noise.

Keyword: LFM Chirp, band-limited Gaussian White Noise, Rectangular Pulse, PALSAR-2.