

## Onboard Software for the Lunar Radar Sounder (LRS) of the SELENE satellite

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The main purpose of the Lunar Radar Sounder Experiment (LRS) onboard the SELENE satellite is to obtain shapes of surface and subsurface structures of the Moon by using the HF radar sounder technique. In order to transfer the observation data to the ground, it is necessary to establish an onboard software to convert the data not only to A-scan data series but also the complex Fourier coefficients of the wave form of LRS echoes. In the standard telemetry mode, the power spectrum and complex Fourier coefficients of wave form data are transmitted with carrying out the FFT calculations. The wave form of echo signals can be sent in the high speed telemetry mode with transmission speed of 472 kbps.

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