

Crossover analysis of ranged positions on the moon by SELENE-LALT

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The crossover analysis of ranged positions by SELENE-LALT on the moon is under investigation. This method aims to determine the positions and attitudes of S/C and absolute ranged positions on the moon by making use of small size footprints of LALT (30m).

Due to the preliminary analysis it may be possible to determine the absolute ranged positions with the accuracy about 100m depending on the ground profile conditions around the ranged crossover points. Assuming the averaged range direction of LALT (that is nominally towards the center of the moon) it may be possible to separate the contribution of S/C's orbit and attitude on the shift of ranged positions. If the separation is possible, The information of S/C's attitude may be refined with a few times better accuracy than nominal one.