

2.14

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SESSION Session 2: Performance evaluation

TYPE Presentation

TITLE "Effect of pulse length, rise time, signal strength, and type of detection system on the range correction for LAGEOS-2"

ABSTRACT

The pulse shape seen by the detector consists of the sum of a discrete number of photoelectrons. This pulse shape can vary significantly from the shape of the electric field in the return from Lageos. The pulse seen by the detector is a function of transmitted pulse length, rise time of the receiver, number of photoelectrons, and type of detection system. For LAGEOS-2 the centroid of the return is around 242 millimeters. However, the leading edge of the pulse is at around 256 millimeters. This is a difference of 14 millimeters. The range correction can be anywhere between the centroid and the leading edge. This greatly exceeds the one millimeter accuracy goal for geodetic studies.