

Statistical evaluation of simulated Normal Points calculated with a Wiener Filter

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The standard approach for calculating normal points at ILRS stations is to apply an iterative data filtering. The presence of certain correlations was shown in recent data analysis when plotting normal point RMS against normal point residuals. At the ILRS workshop in 2018 a novel data reduction technique based on a Wiener Filter has been proposed for normal point calculation. As the statistical analysis of 1 year of Lageos data taken with the SOS-W showed improvements compared to the results of the standard normal point procedure, the Wiener Filter normal point technique is further investigated in terms of its convergence properties for varying signal level and dependence on noise. Moreover different reflector arrays are taken into consideration yielding statistics on the distribution of the normal point mean in relation to the center of mass of the satellite array.