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Using Optimal Estimation and Robust Curve-Fitting Tools to Enhance Predicted Earth Angular Momentum for Earth Orientation

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Previous investigations have shown the potential of enhancing the accuracy of estimates of the direction of the rotational pole and velocity of rotation of the Earth by using improved pre-processing (along with improved optimal estimation codes) of atmospheric and/or ocean angular momentum data. (These data are useful for prediction of the Earth orientation parameters because of conservation of the angular momentum in the Earth system). Recent investigations have shown that predictions of UT1 – UTC estimates can be improved by 45% for 1- day predictions and 30% for 7-day predictions. This poster is a continuation of previous efforts to investigate procedures to handle outliers in EOP input data using improved robust curve-fitting tools and improved optimal estimation tools.