An Investigation of EOP Combination Solutions Produced Using Intra-Technique Combinations

T. Johnson, M. Carter, A. Myers, P. Kammeyer, D. McCarthy, W. Wooden
USNO EO Dept.

Many of todays Earth Orientation Parameters (EOP) customers are looking for the best near-real time EOP solution with predictions available. The IERS Rapid Service/Prediction (RS/P) center combines over 2700 EOP observations produced from space geodetic technique observations, such as Satellite Laser Ranging (SLR), Global Positioning System (GPS), and Very Long Baseline Interferometry (VLBI), to produce daily EOP solutions with predictions. Because the IERS customers accuracy requirements for predictions are always changing, the RS/P center is constantly looking for better observations and methods to meet these needs. Currently, the technique services have started offering minimally constrained EOP series produced by intra-technique combinations. This study examines the resulting EOP solutions and predictions produced using these intra-technique combinations from the International Laser Ranging Service, International GNSS Service, International VLBI Service, and the International DORIS Service. We will compare these solutions to the currently available IERS EOP combination series and excitation functions computed from atmospheric and oceanic angular momentum estimates from global numerical models.