New GNSS processing software for EOP service of IAA RAS

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GNSS Earth Orientation Parameters Service of Institute of Applied Astronomy RAS runs from year 2000 and provides daily estimates of Xp, Yp, Xp_rate, Yp_rate and LOD to IERS. The previous software which processes triple-difference GPS-measurements is replaced by newly developed software. This software processes daily observation series of globally distributed 50-70 fixed GNSS stations within IGS network. We process zero-difference ionosphere-free combinations of phase and code measurements and use physical models and calculating strategies in accordance to IERS Conventions 2010 and IGS recommendations to Analysis Centers. We use segmented least-squares algorithms for adjustment and highly optimized implementation for fast computing performance. The products of daily processing are not only EOP estimates but also satellites and receiver clock biases, orbital parameters and parameters of troposphere. The software can be used also outside EOP service to process regional and global GNSS-networks and estimating additional parameters of measurement models.