

Improving UT1-UTC Estimates of KVAZAR VGOS Sessions

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Abstract:

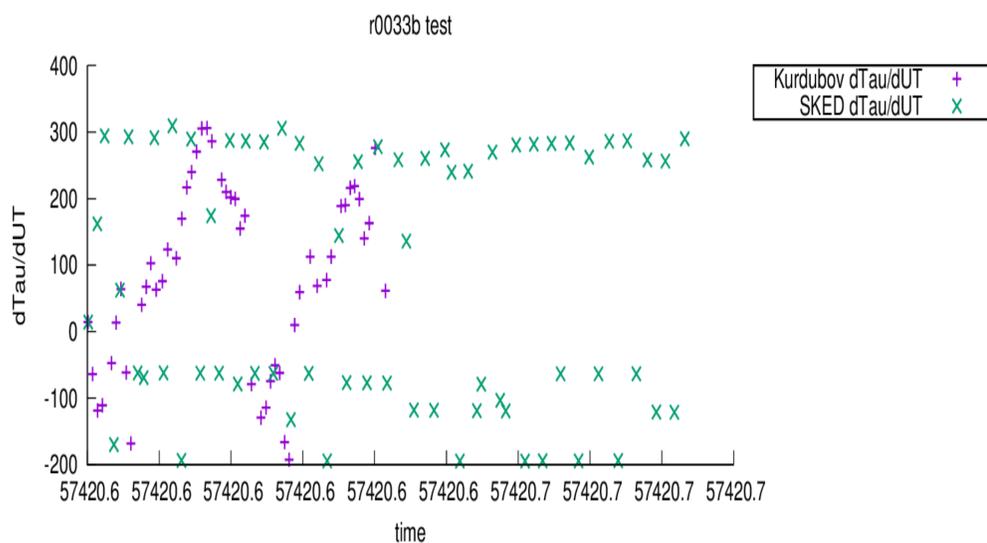
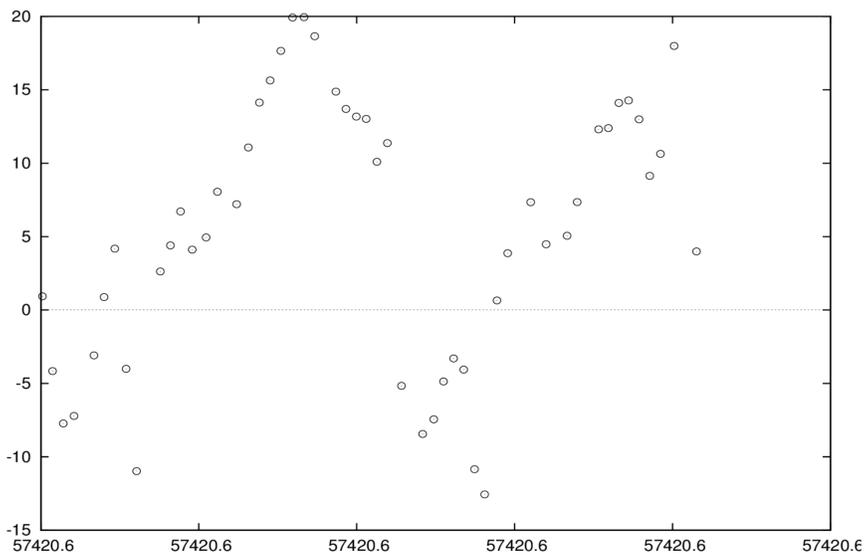
Since November, 2015 we carry on a continuous intraday VLBI sessions using 13-m antennae Badary and Zelenchukskaya. Some changes in scheduling parameters were made to improve UT1 formal error obtained from these sessions. In this poster we present our recent efforts.

Introduction

New VGOS antennae provide a unique opportunity to test different scheduling modes. Since November 2015 KVAZAR VGOS two element radio interferometer “Zelenchukskaya” and “Badary” have started everyday X/S observations. The number of session varied from 2 to 7 sessions in a day to estimate intraday Universal Time using VLBI technique. Regular correlation and postprocessing were performed with RASFX correlator. Analysis was made using QUASAR software suite.

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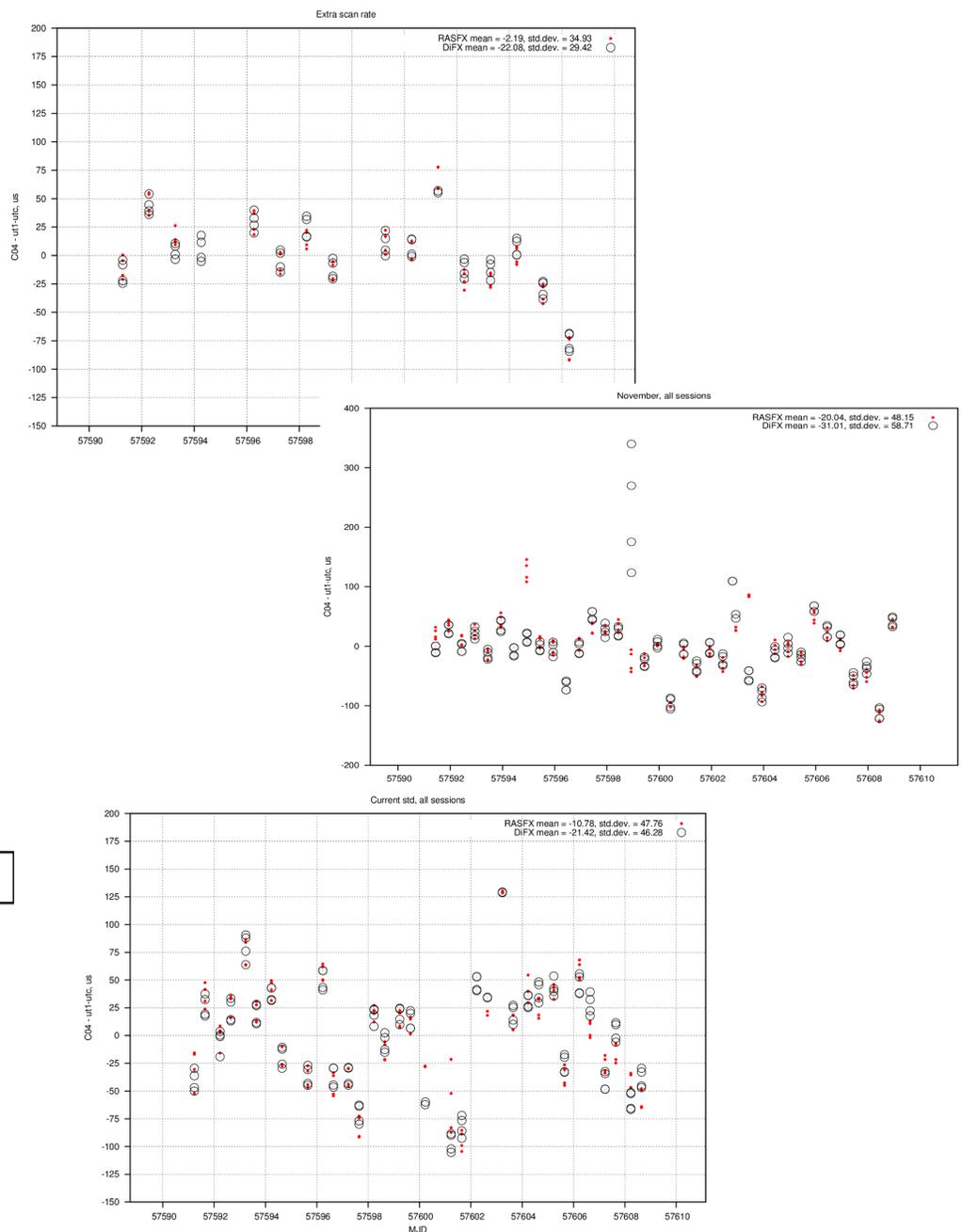
Halfhour session R0033B was carried on February, 2, 2016. We analysed dTau/dUT partials and they showed some periodic pattern (Fig. 1). This periodic is due to the repeating scan sequence on the same sources during the session. Assuming that to get better UT1-UTC formal error estimates we need arbitrary distribution of dTau/dUT partials. In Fig. 2 are shown both original partials and a new scheduling model, which, likely, should improve estimates.



Scheduling and experiment

Geodetic scheduling was performed with a modified version of the SKED software (version 2007Feb13). Schedule parameters to choose scans were changed. All switched on minor parameters weights were set to 0, the same true for the delay between two consequent scans of the same source.

A series of sessions with different schedule strategies was observed between July, 22, 2016 and August, 9, 2016. Three different schedules were made: 1) November, 2015; 2) 120 scans per hour; 3) improved partials.



Analysis

We get following standard deviations: 1) ...
2) ...
3) ...

Conclusions

- Experimental checking of schedule strategies were made.
- Schedule with extra scan rate showed best results.