XII. Decay Epoch of the "Tiangong-1" Spacecraft. March 10, 2018

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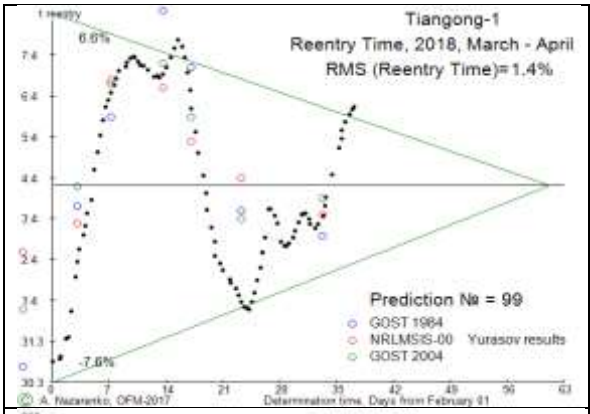
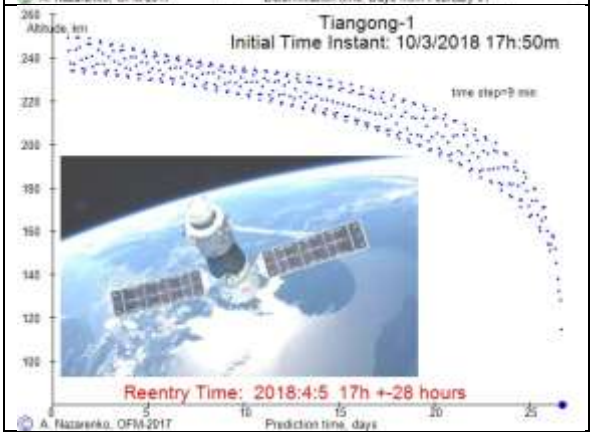
1. The results for March 10, 2018

The materials presented below represent a continuation of the text under the same name, posted on the “satmotion.ru” website from November 2017 to February 28 2018.



Reentry estimates after 01 February 2018

The results of all 99 preceding determinations of SC Tiangong-1 reentry time after February 01 are presented here. The average value of reentry time is ≈April, 03. Deviations from the average value do not exceed 8% of remaining lifetime. The RMS of errors is 1.4%, which is several times lower than the traditional estimates of errors.



Last prediction

Initial data for 10/3/2018 17h 50 m

Change the altitude in time

Reentry time:

5 April 2018 17h ± 28 hours

2. Recent publication of other authors

a) Aerospace Corporation

Tiangong-1 is predicted to reenter in around April 3rd, 2018 ± 1 week*.

This prediction was performed by The Aerospace Corporation on 2018 March 7.

b) ESA

ESA’s Space Debris Office, ESOC, Darmstadt, Germany. Update 6 March 2018.

The current estimated window is ~29 March to ~9 April; this is highly variable.

References

1. A.I. Nazarenko, V.S. Yurasov, S.V. Tikhomirova. Determination of the satellite reentry time with allowance for random variations of atmospheric drag. ESOC, Reentry Workshop 2018, Darmstadt.

2. A.I. Nazarenko. Stochastic astrodynamics tasks. Mathematical methods and algorithms for solving. Moscow, URSS, 2017, 352 (p).