Space Studies of the Upper Atmospheres of the Earth and Planets including Reference Atmospheres (C)
Development of Models Related to the CIRA08 – COSPAR International Reference Atmosphere (C4.2)

# OPTICAL SURVEILLANCE OF SATELLITES AND SPACE DEBRIS WITH UKRAINIAN NETWORK OF OBSERVATORIES

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To perform prediction of the accurate position of the satellite with the time and predict the dangerous approaching of satellite with space debris, it is necessary to have a complete motion theory of bodies on low Earth orbits. The thermospheric density models is still not accurate enough. To solve this problem, it is offered to fulfill real-time monitoring of several tens or hundreds of large space objects on different orbits. For these satellites it is necessary to do assessments of the drag coefficient and the actual current parameters of the dynamic thermosphere density model by means of fitting the models parameters to recent observations. An updated in this way the thermosphere model then use for the numerical integration of the equations of perturbed motion of satellites, which are approached to the other on the critical distance. Ukrainian network of stations for optical satellites observations (UMOS) already includes 10 different small-diameter telescopes in different points in Ukraine. In the report are is presented the means and methods of observation and processing software. There is a need for inclusion in the existing network of other telescopes, located at a considerable distance from these.