ANALYSIS OF NEAR-EARTH RESIDENT SPACE OBJECTS VISIBILITY CONDITIONS FROM OPTICAL GROUND STATIONS

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The continuous monitoring of space object positions in near-Earth space is necessary for tasks of:

- the collision prevention of an active satellite with other satellites or space debris objects;
- the cleaning Near-Earth space from inactive satellites and space debris;
- the planning of new satellite launches.

The optical ground stations are used to solve the problems of space situational awareness in Ukraine now due to their versatility and moderate cost compared to the radar systems. The new optical ground stations deployment outside Ukrainian territory are discussed at the same time. The telescopes can perform observation of the resident space object only if the object is in direct view of the observation equipment, it is illuminated by Sun and observation station isn't illuminated by Sun. These demands make the observation of all objects in near-Earth space from one optical ground station impossible. In this work, the satellite visibility charac-