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**ENLARGEMENT OF COLLABORATION  
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## **DEVELOPMENT AND APPLICATION OF THE COMBINED METHOD OF CCD OBSERVATIONS**

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The combined method was developed in RI NAO for observation of objects which have visible speed relatively stars (artificial satellites, asteroids). This method consists in combination of frames made in different modes of CCD camera (separately for objects and reference stars). Different ways of using this method were tested in RI NAO. The base of the combined method is the drift scan mode of CCD camera. This mode allows to obtain point track of moving objects at immovable telescope.

First application of the combined method was made at the Multi-channel Telescope (MCT) for observations of GEO telecommunication satellites. Now the combined method is use at the Fast Robotic Telescope (FRT) and AZT8 telescope in Evpatoria for observations of GEO satellites and debris. These telescopes are using CCD cameras made in RI NAO. Simple mode is used for image of object and drift scan mode for image of reference stars.

Fast SIC camera was tested on FRT telescope for observation with combined method. Long focus objective was use for GEO objects and short focus for LEO objects. Simple mode with short exposure time was use for image of reference stars.

The new fast drift scan mode was designed to reduce observation time. The turning platform was developed in RI “NAO” for satellites observation with drift scan mode. The turning platform, equipped with engine and angle encoder, is a device for CCD camera rotation encircling the objective optical axis.