THE VOLUME OF INFORMATION EXPECTED IN THE SPACE ASTROMETRY PROJECT STRUVE

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The data acquisition operational system in the space astrometry project STRUVE is being designed on the basis of the CCD-mosaic registration system. Two focal assemblies consist of 28 CCD-arrays, each of 800×800 pixels of 16 μm size. Two Schmidt telescopes of aperture 40 cm, focal length of 2.5 m and angular field of view of 2.41 square degrees will be used, and $5.1 \cdot 10^6$ pixels must be read every second of time. The dynamic range of the CCD-sensitivity is $2 \cdot 10^5 e^-$. The full downlink output is ≈ 5 Mbaud. The margin magnitude on the limit range of sensitivity is $V \approx 22$ mag in the integral passband $\Delta\lambda \in (0.33 - 0.75)\mu$m and is near to $V = 18$ mag with a signal-to-noise ratio ≈ 3 in the passbands of the Vilnius seven-color photometric system. The final databases are supposed to be:
1. The raw CCD-registration strip files: ≈ 50 Tbyte.
2. The Reference Astrometric and Photometric Catalog database of ≈ 14 Gbyte. The positional and parallax accuracy for all stars brighter $V = 14$ mag must be better than 0.4 milliarcsecond, the photometric accuracy in all bands should be better than 4 milli-magnitudes.
3. The Astronomical Image Data Base with the reduced CCD-data: ≈ 500 Gbyte.

Thus, the STRUVE project is subject to the construction of fundamental coordinate system with proper motions linked to cosmological objects. The overview of faint stars is expected to be complete down to $V \approx 18$ mag in multicolor passbands and potentially down to $V \approx 21$–22 mag in the integral band.