# A PART OF THE STARRY SKY DESCRITION FORMIG WHEN TV OBSERVATION

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ABSTRACT. The observing part of the starring $j = 1, k$, $k$ - number of observation circles, and measured when setting up TPPF' nonstationary elements identity and determining their parameters difference. sky is represented by two-dimentional pulse parametric field$M, M = [(S, B, (X_o, Y_o))i, i = 1, n$. Where $(X_o, Y_o)$ - optical radiation centroid's coordinates, $B$ - Summary radiation (brightness), $S$ - the qbject's area Compact object's isolation and their parameters $S, B, (X_o, Y_o)$ determination real time algoritm is developed. The method may be realised by a middle class computer vision system (CVS). The CVS computing system may be realised by convejor inhomogeneous structure "base computer + functional oriented processor" (BC + FOP). Some FOp's units are developed. The method's efficiency was carried out when imitation testing of binary image models.

**Key words:** Picels', measured, images, algoritm.

Automatization of the Starry sky (SS) observation presupposes the SS part model forming at the computing system's (CS) memory. The SS image appertains to the local information class, that is, in accordance with the task semantics the objects of interest may be separated from the background in it (Val'teris, 1983).

The natural SS model therefore would be two-dimensional pulse parametric field (TDPPF), where every cosmic object (CO) is represented by numerical characteristics - area S, optical radiation B, radiation centroid coordinates $(X_0, Y_0)$. A part of SS representation $M$ forms joint of CO characteristics: $M = [(S, B, (X_0, Y_0)_j], j = 1, n$. Situation changes at the observing part of SS may be find out when setting up correspondence of the current frame TPPF' $(M_j)$ elements to the previous frame $(M_j - 1)$ ones,

Pixels' signals of scanning aperture size $A \times B$ histogram forming algorithm is developed (Strygin, 1985). This histogram is necessary when defining adaptive threshold for detecting compact small sized and point objects located on the complex background. Real time (RT) object detecting and TPPF forming algorithms are developed. They work at multiplied objects' images, correcting CO parameters when pointing over their "holes". M-forming method may be realized by computer vision system (CVS); it may be rated as a middle class one by the complexity. Such CVS are developed as specialized ones.

The CVS's CS may be realized by inhomogeneous pipeline structure "Base computer plus functional - oriented processor (BC+FOP)".

A number of FOP' units is developed:picels' signals of scanning aperture forming. measured (for example, optical radiation B) and computed (for example, frequency of code in series) sign sorting, and some others. The method's program realization was examined when testing model binary images. As a computer was used IBM 386/DX-40 and C++ was used as a programming language.

## References

Val'teris S.E.: 1983, *Trudy AN Litov. SSR*, **3**, 105.
Strygin N.Z.: 1985, *Author. Svidet. USSR N***1487069 GO6 F15/66**.