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**5-th Gamow Memorial International Conference  
dedicated to 111-th anniversary of George Gamow**

**ASTROPHYSICS AND COSMOLOGY AFTER GAMOW:  
PROGRESS AND PERSPECTIVES**

**and**

**15-th Odessa International Astronomical Gamow Conference-School**

**ASTRONOMY AND BEYOND: ASTROPHYSICS,  
COSMOLOGY, COSMOMICROPHYSICS, ASTROPARTICLE  
PHYSICS, RADIOASTRONOMY AND ASTROBIOLOGY**



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**PROGRAM AND ABSTRACTS**

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August 16-23, 2015  
Odessa, Ukraine

**CATALOG OF POSITIONS AND B MAGNITUDES  
OF STARS IN THE CIRCUMPOLAR REGION OF  
NORTHERN SKY SURVEY (FON) PROJECT**

*Andruk V.<sup>1</sup>, Golovnia V.<sup>1</sup>, Ivanov G.<sup>1</sup>, Yizhakevych E.<sup>1</sup>,  
Pakuliak L.<sup>1</sup>, Protsyuk Yu.<sup>2</sup>, Shatokhina S.<sup>1</sup>*

*<sup>1</sup>Main Astronomical Observatory (MAO) of National  
Academy of Sciences (NAS), Ukraine*

*<sup>2</sup>Research Institute: Nikolaev Astronomical Observatory,  
Ukraine*

*andruk@mao.kiev.ua, golov@mao.kiev.ua,  
ivanov@mao.kiev.ua, izhak@mao.kiev.ua,  
pakuliak@mao.kiev.ua, yuri@nao.nikolaev.ua,  
svetash@mao.kiev.ua*

For the circumpolar region (from 58 to 90 degrees) of Northern Sky Survey project the catalog of star positions and B-magnitudes has been created under the motto of the rational use of resources accumulated in UkrVO JDA (Joint Digital Archive) in MAO NASU. The total amount of processed plates is 477. Digitizing of astronegatives has been carried out with the help of Microtek ScanMaker 9800XL TMA and Epson Expression 10000XL scanners, with the scanning resolution - 1200 dpi, the linear size of the plates - 30x30 cm or 13000x13000 px. The catalog contains 1 975 967 stars and galaxies with  $B \leq 16.5^m$  for the epoch of 1985.28. The coordinates of stars and galaxies were obtained in the Tycho-2 reference system, and B-value in the system of photoelectric standards. The internal accuracy of the catalog for all the objects is  $\sigma_{\alpha\delta} = \pm 0.23''$  and  $\sigma_B = \pm 0.12^m$  (for stars in the range of  $B = 8^m - 14^m$  errors are  $\sigma_{\alpha\delta} = \pm 0.11''$  and  $\sigma_B = \pm 0.06^m$ ). Convergence between the calculated and reference positions is  $\sigma_{\alpha\delta} = \pm 0.06''$  (for 171 124 stars from Tycho-2), and the convergence with photoelectric stellar B-magnitudes is  $\sigma_B = \pm 0.15^m$  (for 5130 stars). External accuracy from the comparison with UCAC-4 is  $\sigma_{\alpha\delta} = \pm 0.33''$  (1 928 367 stars and galaxies were cross identified).