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Progress Report

QUASARS PHYSICAL PROPERTIES STUDY BASED ON THE MEDIUM-BAND PHOTOMETRIC SURVEY

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We carried out a medium-band photometric survey on the 1-m Schmidt telescope of the BAO NAS. We have developed a method focused on obtaining the maximum completeness of the sample of quasars. The selection algorithm was tested on the data of the HS47.22 field. The selection of objects was carried out in the following stages: using the morphology of objects from the DECaLS survey; using the method of nearest neighbors in the color space of broadband and medium-band filters; using infrared colors (WISE); using GAIA data on parallax and proper motions; using X-ray data (ROSAT) and radio data (FIRST). At the final stage, objects were added to the main sample of quasars after visual observation of the medium-band spectral energy distributions. By means of this technique, we created the sample of quasars in the field HS47.22 with maximum completeness, determined the photometric redshifts, and carried out studies of the physical properties of the quasars. In this report, we compared the luminosity function of quasars obtained by our method and the results of other authors.