

## Discovery of Five Bright Low-Redshift Quasars from ROSAT PSPC Sources<sup>1</sup>

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**Abstract.** A program to identify bright *ROSAT* sources is being carried out with the 216-cm and 60-cm telescopes at Xinglong station. As the result of the first run, five bright low-redshift quasars have been discovered.

### 1. Observations and Results

Both *ROSAT* All-Sky Survey (RASS) and PSPC pointed observations resulted in many unidentified sources. Optical follow-up observations are needed to identify these sources. A sample of bright *ROSAT* sources was selected from the PSPC pointed observations according to the following criteria: (1) declination  $\delta \geq -10^\circ$ , (2) Galactic latitude  $|b| \geq 20^\circ$ , (3) count rate  $\geq 0.05 \text{ s}^{-1}$ , (4) angular extent  $\leq 6''$ , (5) no previous identification as AGNs, cataclysmic variables, white dwarfs, or X-ray binaries, and (6) apparent magnitude  $13.5 \leq V \leq 16.5$  on the Digital Sky Survey. A total of about 150 sources were obtained. It is expected that stars having active coronae should occupy majority of the sample. Low-redshift AGNs are also expected.

The spectra of 96 sources have been obtained with the 216-cm telescope at Xinglong station. The typical spectral range covered is 3800–8000 Å, with resolution  $\sim 4.7 \text{ \AA}$  per pixel. Classification of the spectra shows that 5 of them are quasars. They have no previous identification in the NASA/IPAC Extragalactic Database (NED). Their *V* magnitudes have been obtained with the 60-cm telescope at Xinglong station. Their redshifts are  $z = 0.081, 0.143, 0.165, 0.312,$  and  $0.76$ , and magnitudes are  $V = 15.4, 15.6, 16.0, 16.4, 15.7 \text{ mag}$ , respectively.

Our results show that optical follow-up identifications of *ROSAT* PSPC sources are productive in discovering bright low-redshift quasars. There are about 140 quasars brighter than  $V = 16.0 \text{ mag}$  in the northern hemisphere, so the optical follow-up identifications of RASS sources will greatly increase the number and space density of known bright low-redshift quasars.

### References

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