

”Pi of the Sky”: modelling of the detector response for more effective search for optical GRB counterparts.

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“Pi of the Sky” is a robotic telescope project aiming for continuous observation of a large part of the sky with high temporal and optical resolution using wide field-of-view CCD cameras. Its primary goal is to look for optical afterglows associated with the gamma ray bursts (GRB), but it is also well suited to study any kind of short timescale astrophysical phenomena. The prototype apparatus with two cameras has been installed at Las Campanas Observatory in Chile in 2004. Most significant observations, including extraordinarily bright prompt optical emission of GRB 080319B are briefly discussed.

A wide field-of-view CCD cameras suffer from large image distortion effects. Dedicated setup has been designed and built for detailed laboratory studies of the camera’s behaviour, including point-spread-function (PSF) and CCD sensitivity measurements. The aim of the study is to prepare realistic model of the detector response, which would help to understand the detector performance in more details and to improve measurement precision.

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