

# Detectability of GRB optical afterglows with Gaia satellite

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With the launch of Gaia satellite, detection of many different types of transient sources will be possible, one of them being optical afterglows of gamma-ray bursts (GRBs). Using the knowledge of the satellites dynamics and properties of GRB optical afterglows we performed a simulation in order to estimate an average GRB detection rate with Gaia. Here we present the simulation results for two types of GRB optical afterglows, differing in the observer's line-of-sight compared to a GRB jet axis: regular (on-axis) and orphan afterglows. Results show that for on-axis GRBs, less than 10 detections in five years of foreseen Gaia operational time are expected. The orphan afterglows simulation results are more promising, giving a more optimistic number of several tens of detections in five years.

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