

Gamma-ray bursts are fascinating high energy phenomena, related with supernovas and black holes, which were discovered by accident in the second half of the 20. century. The goal of this thesis is to perform a multi-spectral analysis of the GRB 190919B after becoming familiar with the elementary knowledge about this phenomena. The images of an optical afterglow from robotic telescopes FRAM and BOOTES enabled us to construct the photometric light curve of the given burst. Together with the publicly available data from other spectral fields, the spectral energy distribution could be created. Afterwards, we fitted both obtained graphs with several functions with different choices of constraining parameters. Through analysis of the acquired values, we obtained several variants of the scenario of the observed event. By determining the value of initial Lorentz factors, we confirmed that all the options lie within the boundaries of typical values for the model of relativistic fireball.