Title:	UV-Optical Variablility of VHE FSRQs
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Abstract:	This thesis investigates the optical/UV variability of flat-spectrum radio quasars (FSRQs), which are a class of active galactic nuclei (AGNs) categorized as blazars along with BL Lacs. These FSRQs have relativistic jets aligned at very small angles (< 15 0) to the line of sight. Although they emit most of their radiation in the MeV-GeV band, they are not commonly observed at very high energies (VHE, E > 100 GeV), which is usually asso- ciated with high-frequency peaked BL Lacs. However, observations from ground-based Cherenkov telescopes have identified nine FSRQs that emit in the VHE range out of a total of 651 detected FSRQs. This project focuses on those nine FSRQs by studying their tem- poral and spectral behaviour using light curves and spectral energy distributions (SEDs) during VHE and non-VHE times in the UV/optical regime. Blazars exhibit a characteristic double-humped SED, where the first peak (optical/UV) is attributed to synchrotron emis- sion, and the second peak (γ-ray) is attributed to inverse Compton scattering. The project aimed to understand the correlation between the UV/optical region and VHE emissions, which are related to the high-energy tail of the synchrotron peak. The analysis was con- ducted using data from the UVOT Telescope of the Swift Observatory and the HEASoft version 6.30.1 package. The light curve exhibits significant variability. The spectral energy distributions (SEDs) of the sources were fitted using the power law model. In general, the fitted spectral energy distributions (SEDs) exhibited a consistent downward trend for all sources, indicating similar behaviour. However, an exception was observed for 4C+21.35, which displayed a completely opposite trend. The spectral shape, spectral index, and tem- poral flux variability of the nine sources do not exhibit any peculiar behaviour during VHE time compared to non-VHE time.
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