Multiband Flux and Spectral Variability of BL Lacertae During the 2020 Outburst

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This study reports quasi-simultaneous BVRI optical observations of the blazar BL Lacertae during September–October 2020 using six telescopes, yielding ~5800 images. The source showed strong intraday and short-term variability, with flux variability amplitudes up to ~93% depending on the band. A bluer-when-brighter trend was observed on both short and intraday timescales, likely linked to jet processes. Strong interband correlations were found without significant time lags. Periodicity analysis suggested possible quasi-periodic behavior. Spectral energy distributions indicated steep spectral indices (2.9–3.2), consistent with strong jet emission. Results are discussed in terms of intrinsic and extrinsic mechanisms.