Time Series Ensemble Photometry of SX Phoenicis Stars I: BL Camelopardis

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We present an analysis of the multiperiodic SX Phoenicis star BL Camelopardis(GD 428). Along with 24 times of maximum light from archival data, six previously unpublished times of maximum light from photomultiplier observations and 39 new CCD observations of maximum light are reported. The new CCD observations indicate thar BL Cam is a double-mode variable with a primary period of 0.0391 day, a secondary period of 0.0306 day, and a π_1/π_0 ratio of 0.783. The relation between metallicity and period ratio for large amplitude δ Scuti variables is examined in detail. Finally, evidence is presented that the fundamental period π_0 has increased by 0.009 seconds in the last 20 years.