Abnormal Profiles in the Lowest Balmer Lines in Walker 90/V590 Mon

Mario Perez[1], Mario E. van den Ancker[2], Michael D. Joner[3], and Bruce McCollum[4]
(Email: mperez@lanl.gov)

[1]Los Alamos National Laboratory, Los Alamos, New Mexico
[2]European Southern Observatory, Garching, Germany
[3]Department of Physics and Astronomy, Brigham Young University, Provo, Utah
[4]Spitzer Science Center, California Institute of Technology, Pasadena, California

Recent detections of rapid variability in most lines observed (3600 to 9000 Å, resolution = 0.2 to 0.5 Å), in the enigmatic Herbig Be star Walker 90/V590 Mon located in NGC 22664, revealed a well-developed inverse P-Cygni (IPC) profile in Hβ and a broad emission in Hα with a superimposed strong IPC. These profiles seldom appear in the low Balmer emission lines and they have been observed in only a handful of young objects. Moreover, in Walker 90, the historical photometric variability seems erratic with no clear correlation between the colors and the brightness variations for the last 45 years, suggesting that the light variations are not attributable to variable circumstellar extinction. Archival and recent observations will be presented in an effort to advance our understanding on the evolutionary status of this object.