

Be Stars as Binary Systems and Methods to Reveal the Secondary Components

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The presence of circumstellar matter was discovered over 150 years ago through visual observations of emission lines in spectra of B-type stars. This effect is called the Be phenomenon, found only in fast-rotating stars and not yet fully understood. One explanation of the fast rotation is a consequence of mass transfer from a secondary component, which have been hard to reveal because they are much fainter than the primary components, the B-type stars. Methods of detecting the secondary components include traditional (through an ultraviolet excess radiation due to a hotter secondary or regular radial velocity variations of the primary's spectral lines) and recently emerging ones (through regular variations of the peak intensities of typically double-peaked hydrogen emission-line profiles in the primary component spectra or deficit of far infrared fluxes compared to those calculated from models). I will discuss all the methods and show the results of recent studies that keep increasing the binary fraction of Galactic Be stars, many of which are very bright stars in our sky.

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