

A multi-wavelength view of NGC 1624-2

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Abstract. Large magnetometric surveys have contributed to the detection of an increasing number of magnetic massive stars, and to the recognition of a population of magnetic massive stellar objects with distinct properties. Among these, NGC 1624-2 possesses the largest magnetic field of any O-type star; such a field confines the stellar wind into a circumstellar magnetosphere, which can be probed using observations at different wavelength regimes. Recent optical and X-ray observations suggest that NGC 1624-2's magnetosphere is much larger than that of any other magnetic O star. By modeling the variations of UV resonance lines, we can constrain its velocity structure. Furthermore, recent spectropolarimetric observations raise the possibility of a more complex field topology than previously expected. Putting all of these multi-wavelength constraints together will allow us to paint a consistent picture of NGC 1624-2 and its surprising behavior, giving us valuable insight into the very nature of massive star magnetospheres.

Keywords. stars: mass loss, stars: magnetic fields, ultraviolet: stars, X-rays: stars

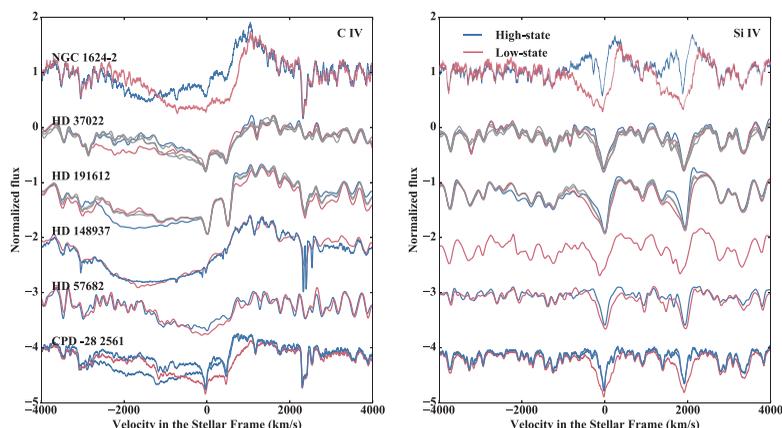


Figure 1. HST/STIS observations of NGC 1624-2 show a remarkable variation of the UV resonance lines between the pole-on and equator-on views (top line); as a means of comparison, high/low state spectra of other magnetic O stars are shown below (David-Uraz *et al.*, in prep.). Ongoing efforts (Erba *et al.*, these proceedings) aim to account for these changes using the Analytical Dynamical Magnetosphere model (ADM; Owocki *et al.*, 2016, *MNRAS*, 462, 3830) rather than full-scale 3D MHD simulations.