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Astrophysics > Solar and Stellar Astrophysics

High spatial resolution monitoring of the activity of BA supergiant winds

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There are currently two optical interferometry recombiners that can provide spectral resolutions better than 10000, AMBER/VLTI operating in the H-K bands, and VEGA/CHARA, recently commissioned, operating in the visible. These instruments are well suited to study the wind activity of the brightest AB supergiants in our vicinity, in lines such as H\$\alpha\$ or BrGamma. We present here the first observations of this kind, performed on Rigel (B8Ia) and Deneb (A2Ia). Rigel was monitored by AMBER in two campaigns, in 2006-2007 and 2009-2010, and observed in 2009 by VEGA; whereas Deneb was monitored in 2008-2009 by VEGA. The extension of the Halpha and BrGamma line forming regions were accurately measured and compared with CMFGEN models of both stars. Moreover, clear signs of activity were observed in the differential visibility and phases. These pioneer observations are still limited, but show the path for a better understanding of the spatial structure and temporal evolution of localized ejections using optical interferometry.

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