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# Multiple transient corotating magnetic loop model applied to the O supergiant lambda Cephei

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## Abstract

The majority of the O-type stars and many B stars show unexplained cyclical variability in their winds, i.e. modulated on the rotational timescale, but not strictly periodic over longer timescales. For these stars no dipolar magnetic fields have been detected, with upper limits below 300 G. Similar cyclical variability is also found in many optical lines, which are formed at the base of the wind. We present a simple model which aims to represent multiple transient corotating magnetic loops (like solar prominences), to explain the cyclical optical line variability as observed in the O supergiant lambda Cep. Although the fits results may not be unique at this stage, the model constrains the inclination angle and the rotation period of the star.

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