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To Pulse or not to Pulse? That is the question.

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Abstract :

We present reduction and analysis on two eclipsing Algol type binary systems from data obtained by the Kepler Satellite. KIC star A with parameters more indicative of an evolved Algol system ($q = 0.36$; $T_{\text{Primary}} = 7300\text{K}$, $T_{\text{Secondary}} = 4900\text{K}$) shows no pulsation of the primary component of any description, whilst KIC star B, a theoretically less evolved system ($q = 0.36$; $T_{\text{Primary}} = 8600\text{K}$, $T_{\text{Secondary}} = 5300\text{K}$) shows strong pulsation frequencies down to 8×10^{-4} magnitude. We suggest possible reasons for the lack of pulsation in KIC A and address the shortfalls of our understanding of Algol systems.

Award :

Yes

Level :

MSc

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Paper :

Yes

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