
Seven-Period Asteroseismic Fit of KIC 8626021

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Abstract

We present a new, better-constrained asteroseismic analysis of the helium-atmosphere (DB) white dwarf discovered in the field of view of the original Kepler mission. Observations obtained over the course of two years yield at least seven independent modes, two more than were found in the discovery paper for the object. With several triplets and doublets, we are able to fix the ℓ and m identification of several modes before performing the fitting, greatly reducing the number of assumptions we must make about mode identification. We find a very thin helium layer for this relative hot DB, which adds evidence to the hypothesis that helium diffuses outward during DB cooling.

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