
IN BRIEF 14 June 2017

Mass of a white dwarf star measured for the first time

MEASURING a star's mass isn't an easy feat – you can't exactly pop it on a pair of scales. But thanks to a key prediction in general relativity, we have directly measured the mass of a white dwarf for the first time.

Einstein predicted that light would curve around massive bodies because of gravity. Kailash Sahu and colleagues at the Space Telescope Science Institute in Baltimore, Maryland, measured bending light from white dwarf Stein 2051 B as it moved in front of another star over two years.

It turns out the star has about 68 per cent of the sun's mass. Early estimates assumed it had an iron core, but this finding suggests that is incorrect (*Science*, DOI: 10.1126/science.aal2879).

The measurements for Stein 2051 B may be off by up to 7.5 per cent owing to a lack of perfect resolution, says Sahu, but it is still our best calculation of its mass.

This article appeared in print under the headline “Weighing a white dwarf with gravity”

Want more? Read the extended version of this article.

Magazine issue 3130, published 17 June