

MAGNETIC-FIELD DISTRIBUTION OF A WHITE DWARF

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A white-dwarf spectrum from the SDSS database (J124851.31-022924.73), covering the hydrogen Balmer series, is analyzed. The individual Balmer line shapes are significantly influenced by the Stark and Zeeman effects, allowing for inferring the plasma density and temperature, and the magnetic field in the WD atmosphere. It is established that no single set of the plasma parameters can satisfactorily explain the entire spectrum, strongly hinting at a rather wide distribution of the magnetic field magnitudes. A more refined modeling, accounting for the radiation-transport effects in the star atmosphere, is currently under way.