

# The variability of magnetic white dwarfs

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Most white dwarf stars do not show any variability - in fact, they are often considered flux standard stars. Because of flux stability, it is generally impossible to observe their rotation, except when they pulsate or when they have a magnetic field. Indeed, many magnetic white dwarfs exhibit a polarised spectrum that periodically varies as the star rotates because the magnetic field is not symmetric about the rotation axis. The polarisation variability comes often with subtle photometric variability. Past studies have suggested that a few old magnetic white dwarfs have extremely long rotational periods, showing at most quite small variations even on timescales of decades. This lack of obvious polarimetric (and photometric) variability has been explained by the assumption that such rare, non-varying magnetic white dwarfs have very long rotation periods of the order of centuries. Here we present a different interpretation: the lack of variability is practically the rule in old and strongly magnetic white dwarfs, and is not due to a long rotational period, but to the fact that, with time, strong magnetic fields become symmetric about the stellar rotation axis. We will present the observational evidences of this phenomenon, and discuss the mechanisms that may cause the magnetic field to align with the stellar rotation axis.