

VARIABILITY AND ROTATION IN MAGNETIC WHITE DWARFS

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We present a search for long term (months - years) photometric variability in a sample of 10 isolated magnetic white dwarfs using observations taken with the Liverpool Robotic Telescope between March 2005 and January 2007. These stars had previously been found to be photometrically stable on short (hours - one week) timescales (Brinkworth et al. 2007). We construct differential lightcurves and then use the CLEAN algorithm to generate periodograms to find the best-fitting periods. Photometric variability is detected in three of the targets during the observed timescale - G 227-28, G 240-72 and GD 229. The magnetic white dwarf G 240-72 has a probable period between 50-100 days and G 227-28 shows variations of $\sim 2\%$ over the observing seasons. We find no variability in the remaining 7 targets above the 1% level. Finally, we search for any correlations between the derived periods and the physical parameters of the magnetic white dwarfs: magnetic field strength, temperature, mass and age.