

A SPECTROPOLARIMETRIC SURVEY OF WHITE DWARFS IN THE LOCAL 20PC VOLUME

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We have obtained spectropolarimetric observations for about 100 white dwarfs within 20 pc from the Sun, and combined them with previous literature data. This way we have been able to check almost the entire population of about 150 white dwarfs of the local 20 pc volume for the presence of magnetic field, with a sensitivity that ranges from better than 1 kG for most of the stars of spectral class DA, to ~ 1 MG for the featureless white dwarfs. We have also completed the exploration of a larger volume of space for stars in certain age and mass bins. In this talk we will report about the statistical results of our surveys, and in particular how the occurrence of magnetic field correlates with other stellar features such as atmospheric composition, mass and age. We will discuss the implications of our findings for the theories that try to explain the origin of magnetic fields in degenerate stars.