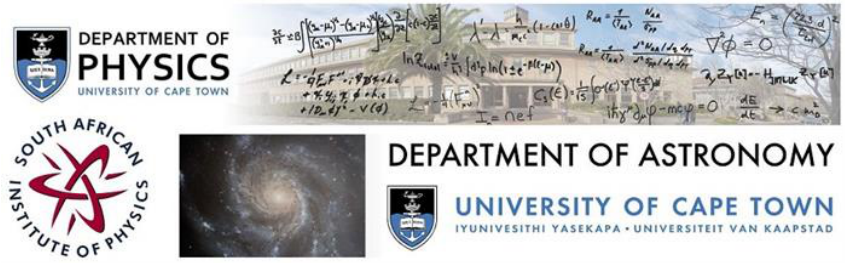

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Discovery of the First White Dwarf Pulsar

Friday, 8 July 2016 11:30 (20 minutes)

Abstract content
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The first example of a White Dwarf which shows spin modulation of its flux in both the radio and optical wavelengths has recently been discovered. It is in a close binary system with a M-dwarf companion and has a 3.6h orbital period. Polarimetric observations undertaken at the SAAO has revealed remarkably high linear polarization, which is also strongly pulsed on the 59s first harmonic of the spin or beat period, reaching levels of 80%. In addition, the position angle of the linear polarization can change by up to 360 degrees over this period. Observations over two consecutive nights shows that the level and amplitude of the polarization modulation changes, possibly on the orbital period. We interpret these results as evidence of a precessing synchrotron jet in this system, which is powered by the spin-down energy of the White Dwarf.

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Primary author: Dr BUCKLEY, David (SAAO)

Co-author: Dr POTTER, Stephen (SAAO)

Presenter: Dr BUCKLEY, David (SAAO)

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