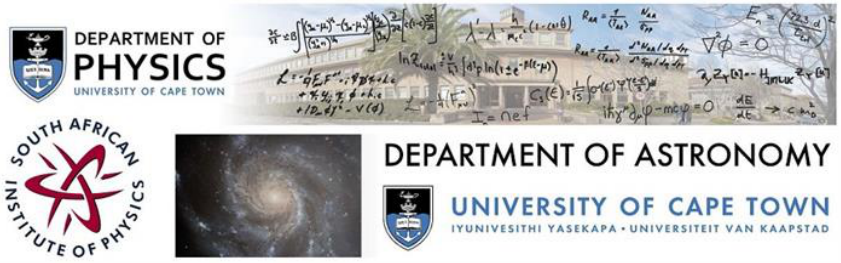

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Survey of Southern Local Group Dwarf Galaxies.

Tuesday, 5 July 2016 14:20 (20 minutes)

Abstract content
   (Max 300 words)
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Dwarf irregular galaxies are the common type of galaxies in the region surrounding our own Galaxy, the so called Local Group. They are known to be gas-rich with low metallicity, suggesting that they are in an early stage of star formation. Their simple structure, compared to other galaxies, makes it easier to study the various physical processes related to star formation and galaxy evolution occurring in these galaxies. The structural information about galaxies can be obtained from HI measurements. The distribution of HI gas in dwarf irregular galaxies is very clumpy and irregularly distributed and is frequently more extended. Most of the available HI data on irregular galaxies has been obtained from arrays with higher resolution. This means that we could be missing out on the extended low surface brightness emission mostly associated with these galaxies, therefore underestimating their derived HI properties.

With the unique capabilities of KAT-7 angular resolution and low receiver temperature, we have selected a well defined sample of 7 dwarf irregular galaxies with the aim of detecting the low surface brightness extended HI emission which cannot be detected by other synthesis arrays such as the VLA and ATCA. These observations will help us constrain the distribu- tion, kinematics and physical conditions of the atomic gas which are relevant to answering questions related to star formation and galaxy evolution.

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Main supervisor (name and email)
and his / her institution

Prof Claude Carignan, ccarignan@ast.uct.ac.za, University of Cape Town.

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