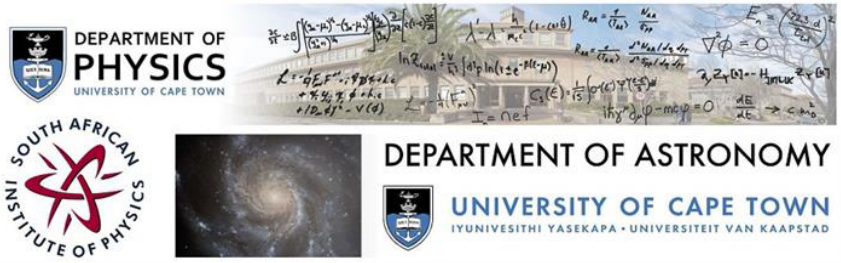

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Towards a new standard for electrical current in South Africa

Wednesday, 6 July 2016 10:00 (20 minutes)

Abstract content
   (Max 300 words)
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The Quantum Metrological Triangle relates the properties of frequency, voltage and current via quantum mechanical phenomena: the quantum Hall Effect, the AC Josephson Effect and the yet to be adopted, high frequency pumping of single electrons. In this talk I will highlight the new-state-of-the-art dilution refrigerator recently installed in the Department of Physics at the University of Cape Town and discuss how all three quantum mechanical phenomena mentioned above can be routinely measured on this new system. I will then focus on the present on-going research in our department on single electron transport in high frequency electron pumps aimed at realising a new standard for electrical current.

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