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Progress toward Ion Trapping at the NLC

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Abstract content
 (Max 300 words)

Trapping and cooling ions for applications in quantum control and precision measurement relies on several, disparate technologies working together. In this talk we review our progress at the NLC toward implementing trapping of ytterbium ions. In particular, we discuss the design and performance of several home-built technologies namely, frequency stabilization of the cooling laser via dichroic atomic laser locking (DAVLL), the design and manufacture of the ion trap from a single gold-coated alumina wafer, design of a microwave phase array antenna for focusing the microwaves onto the ions, and the performance of a helical resonator which produces radio-frequency trapping potentials at high voltage.

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Primary author: Dr UYS, Hermann (National Laser Centre, CSIR)

Co-authors: Mr SMIT, Andre (National Laser Centre, CSIR); Mr STEYN, Johan (National Laser Centre, CSIR); Mr TLOTLENG, Monnamme (National Laser Centre, CSIR)

Presenter: Dr UYS, Hermann (National Laser Centre, CSIR)

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