Contribution ID: **180** Type: **Poster Presentation**

Control of Magnetism near Metal to Insulator Transitions of VO2

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Abstract content
   (Max 300 words)

We report on the presence of plasma expansion cross correlation among the deposition parameters. The fast intensified-charge-coupled-device (ICCD) photography imaging studies of the plasma generated by the KrF excimer laser ablation of VO2 in the presence of oxygen background gas is studied. The magnetic properties of ferromagnetic films are strongly affected by the proximity to materials that undergo a metal to insulator transition. Here, we show that under the depositions conditions associated with structural changes near the metal-insulator phase transition of VO2 produces magnetoelastic anisotropy. We observe intrinsic paramagnetic centres both at the film surface and bulk that are affected by the metal-insulator phase transition in VO2. Under similar conditions, we show that changing the substrate-to-target distance directly affect the observed nano-plateles of VO2 in 1-D

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Primary author: Mr NKOSI, Steven (CSIR)

Presenter: Mr NKOSI, Steven (CSIR)

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