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Type: Oral Presentation

## Comparative Study of Nanostructures VO<sub>2</sub> nanoplates: Annealing effect and Structural Properties

*Tuesday, 10 July 2012 15:30 (20 minutes)*

### Abstract content <br> &nbsp; (Max 300 words)

Significant changes in optical and transport properties of vanadium dioxide nanomaterials induced by the metal to semi conductor phase transformation make vanadium dioxide a well technological material with many applications as gas sensing, smart materials, solar cells, optical limiting, infrared modulators, and light polarizer. Here we present the synthesis of nanoplatelets VO<sub>2</sub> (A) by the hydrothermolysis approach. The composition and nanostructure was analysed by Raman spectroscopy. The annealing treatment in argon gas at 500 ° C for 3hrs was applied to study the effect of heat catalyst upon the atomic structure and vibrational modes of the material. Crystallization temperature is shifted to around 67 ° C critical temperature of VO<sub>2</sub> (M). The final product is well crystallized and the surface structure presents small amount of V<sub>2</sub>O<sub>5</sub>.

### Apply to be<br> consider for a student <br> &nbsp; award (Yes / No)?

yes

### Level for award<br>&nbsp;(Hons, MSc, <br> &nbsp; PhD)?

PhD

### Main supervisor (name and email)<br>and his / her institution

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### Would you like to <br> submit a short paper <br> for the Conference <br> Proceedings (Yes / No)?

Yes

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