Abstract Submitted
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Effect of RF plasma on the growth of titanium carbide thin films using pulsed laser deposition.[1] HEMAN BHUYAN, MIGUEL ESCALONA, Institute of Physics, Pontificia Universidad Catlica de Chile, JULIAN SCHULZE, 2Department of Electrical Engineering, Ruhr University Bochum, Bochum, Germany, PARTHA SAIKIA, Plasma Technology Research Centre, Physics Department, University of Malaya, MARIO FAVRE, FELIPE VELOSO, EDMUNDO WYNDHAM, JULIO VALENZUELA, Institute of Physics, Pontificia Universidad Catlica de Chile — The effect of radio frequency plasma on the growth of titanium carbide thin films by pulsed laser deposition technique will be presented. Studies have been carried out in a hybrid plasma configuration consisting of a Dual Radio Frequency Capacitively Coupled (2fCCP) system and a Pulsed Laser deposition (PLD) system. To investigate the plasma dynamics during the thin film deposition, time resolved optical emission spectroscopy and fast imaging are used. Different standard surface science diagnostic tools have been used to analyze the deposited thin films. The RF plasma assisted pulsed laser deposition (PA-PLD) have the advantage of preventing micro-particles reaching the substrate during thin film depositions. A comparative study of the thin films deposited by conventional PLD and PA-PLD, will be presented. Preliminary results shows that the PA-PLD technique improves the quality of the deposited films with respect to their stoichiometry, morphology and deposition rate.

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