

**DESIGN OF PROSTHETIC ARMS CONTROL TRANSFER  
FUNCTION WITH THE ANALYSIS IN DIGITAL DOMAIN  
INRODUCING SIMULATION ASPECT**

**BISWARUP NEOGI, SOURAV MANDAL, SWATI BANERJEE,  
ACHINTYA DAS AND D.N TIBAREWALA**

**Abstract**

This paper proposed the control analogy implementation of an externally powered prosthetic arm. The Electro Myographig (EMG) signal sensed by the sensitive sensor processed through the filtration and adaptive amplification to control the micro-motor implemented in prosthetic arms. The transfer function generation of overall system and stability determination is the first step of this work. The recursive method is introduce with conversation of digital domain is the second step of this paper. The recursive function implement with the approach of simulation technique to generate the sampled digital data response of the step response added with this work.

-----  
**Keyword:** Prosthetic arms control, Electro myographic (EMG) Signal, Digital Simulation