

## **Microscale Improvement of Copper Electropolishing Using a Multistep Method**

Gomes Filho, J. (1)\*, Simão, R. A. (2), Teixeira, R. L. P. (2)  
Guimarães, A. P. (1), Sommer, R. L. (1).

(1) Brazilian Physics Research Center, CBPF, Rio de Janeiro, Brazil

(2) Federal University of Rio de Janeiro, UFRJ, Rio de Janeiro, Brazil.

\* email: [gomes@cbpf.br](mailto:gomes@cbpf.br)

### **Abstract**

This work exhibits the effects on the surface of copper plates electropolished via a multistep method compared to a continuous time method. Micrometric images of samples were obtained using an AFM (Atomic Force Microscope) and rms roughnesses were calculated and graphed. These images were produced for a time continuous electropolished sample as well as for the multistep electropolished ones. The current-potential behaviour of the copper plate in phosphoric acid was also measured. Rms roughness values were measured for different regions of all samples and the respective values were used for comparison of the proposed method.