



## **Aplicações Especiais da Técnica de Varredura com Eletrodos Vibratórios-SVET**

### **Special Applications of the Scanning Vibrating Electrode Technique-SVET**

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**Abstract:** The applicability and limitations of the scanning vibrating microelectrode technique first used on the study of corrosion by Isaacs [1] are reviewed. Source of errors and their influence on the current density maps (*i*-maps) are analyzed. The influence of the microelectrode size, vibration amplitude and movement [2], distance between working electrode surface and microelectrode tip [3], as well as that of the acquisition time [4] on the determined *i* values and lateral resolution of the *i*-map are evaluated, theoretically and experimentally. Results of special applications, as the use of SVET under simultaneous polarization [5] and straining are presented. Quasi-stationary local potentiodynamic voltammograms obtained from SVET experiments under simultaneous polarization show a very good correlation with actual global voltammograms and a high collecting efficiency when the distance between working electrode surface and microelectrode tip is as small as 30  $\mu\text{m}$ . Additionally, *i*-maps obtained immediately after straining of Zn-Al coatings on steels, show a difference if straining is performed under dry or wet conditions. From integrated current density values, critical straining values for the onset of localized corrosion could be defined.

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#### **References:**

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