

## Use of EIS and Electrochemical Noise Fractal Analysis to Study *Salvia hispanica* as Green Corrosion Inhibitor for Carbon Steel

I.A. Hermoso-Diaz, J.G. Gonzalez-Rodriguez\*, J. Uruchurtu-Chavarin

Universidad Autonoma del Estado de Morelos, CIICAp, Av. Universidad 1001, Col. Chamilpa, 62209-Cuernavaca, Mor., Mexico

\*E-mail: [ggonzalez@uaem.mx](mailto:ggonzalez@uaem.mx)

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A study on the use of *Salvia hispanica* (Chia) as green corrosion inhibitor for 1018 carbon steel in 0.5 M H<sub>2</sub>SO<sub>4</sub> has been carried out by using electrochemical impedance (EIS) and electrochemical noise measurements (EN). Parameters such as polarization and noise resistance were obtained and Hurst exponent and fractal dimension were calculated. Both techniques showed that *Salvia hispanica* acts as good inhibitor since the corrosion rate decreased by more than one order of magnitude with its addition. Hurst exponent and fractal dimension calculations gave very similar results. Inhibitor efficiency was 90% for up to 24 hours of immersion.

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**Keywords:** Acid corrosion, green inhibitor, fractal dimension, Hurst exponent.

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