Einladung zum Science Meeting

Zeit: Donnerstag, 25.11.2021 09:00 Uhr

Ort: Webinar via Zoom:

https://zoom.us/j/93830246101?pwd=MjRpWWdoRHRVc2V4OW56emdFRjNjdz09

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Electrochemical determination of corrosion rates of carbon steel in oilfield conditions

Corrosion problems in the oil industry occur in the different steps of production and storage processes. Consequently, corrosion is an important concern when tanks, equipment, and other steel components are used which can exhibit mechanical failures and negative environmental impacts due to it. Several methods have been proposed to study corrosion processes: mass loss, galvanic current detection, electrical resistance, and electrochemical measurements. Electrochemical measurements can provide real-time and instantaneous information about tested species and therefore are subject to investigation for various applications recently. When scrutinizing different electrochemical methods, it is important to bear in mind that the technique must be reliable and instant and as a result, the valid results in a short time period should be obtained. Therefore, the linear polarization resistance technique might be the one that meets all requirements. The aim of the project is to build up, validate and investigate electrochemical methodology for reproducible determination of corrosion rates of low carbon steel. Considering the application of the linear polarization resistance method under oilfield conditions electrochemical measurements will be carried out and the effect of various parameters such as voltage, CO2 pressure, temperature, deaeration time etc. will be investigated.

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