

Abstract Submitted
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On the use of liquid-metal electrodes for liquid impedance spectroscopy measurements NATHAN KELLIS, BRIAN MAZZEO, Brigham Young University — Electrode polarization is an obstacle to the accurate measurement of liquids containing ions. An atomically smooth surface electrode would potentially reduce uncertainties due to electrode polarization. Galinstan was used as a liquid-metal electrode for impedance spectroscopy measurements. Electrodes were formed by adhering Galinstan onto a PMMA plate. Two plates were placed in a parallel plate capacitor arrangement with a liquid reservoir. For comparison, an equivalent arrangement of stainless steel electrodes was constructed. Liquid was pipetted into the reservoirs, and impedance was measured from 40 Hz to 110 MHz. Galinstan electrodes showed increased electrode polarization for ionic liquids and chemical instability.

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