

Abstract Submitted
for the 4CF10 Meeting of
The American Physical Society

Measurement of steel corrosion in concrete by impedance spectroscopy PAUL BARTHOLOMEW, ERIC SUMSION, SPENCER GUTHRIE, BRIAN MAZZEO — Steel corrosion is a major problem for aging bridge structures. The steel corrodes as chloride ions migrate to the buried steel. The properties of the corroded steel-concrete interface change due to the corrosion and can be measured by impedance spectroscopy. A new spectrometer was built to measure concrete slabs. A fitting function to the impedance spectra was used to determine relevant parameters correlated with corrosion. Data from the laboratory and the field demonstrate the utility of this technique.

Paul Bartholomew

Date submitted: 10 Sep 2010

Electronic form version 1.4