Phadke Instruments Pvt. Ltd.

Phadkage
Faraday Cage

Faraday Cage is essential for high impedance systems that are characterized by small electrical currents. The wires act as antenna, collecting stray electric fields, which induces supplementary current. This current may be significant portion of the signal if the cell current is small. Any researcher who encounters current in nA range requires Faraday Cage. While performing EIS if you get disturbance at 50Hz you require a Faraday Cage.

The increased use of ultra microelectrodes and studies of electrochemical devices with (xm- and nm-size features have led to the necessity of measurements at the pA, or even fA, level. Work with low currents involves some special considerations. Noise, including pickup from stray electromagnetic fields, becomes very important, and it is necessary to take steps to minimize this interference.

Specifications

Dimension: 340mm X 320mm X 420mm
Weight: 10Kg
Material: 304 Stainless Steel
Powder coated enclosure with conductive gasket for tight sealing

We can also make custom built Faraday Cage

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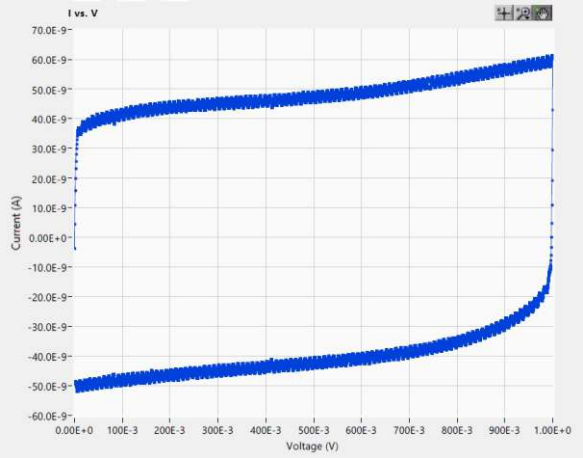
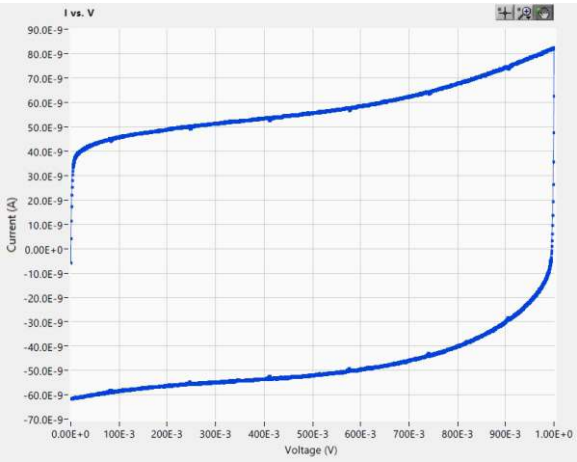
Analysis carried out with Phadkage

All experiments were performed using Gamry Interface 1000E

Cyclic Voltammetry was performed on RC dummy cell (0.5V/sec scan rate from 0-1V and Acquisition frequency 1 kHz)

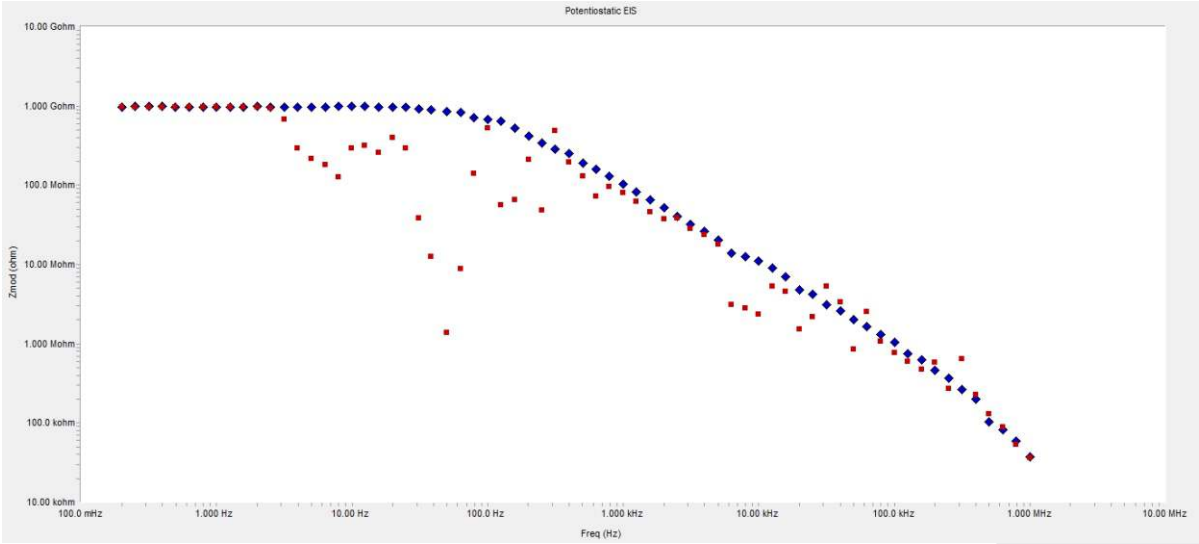


Without Phadkage



With Phadkage

Potentiostatic EIS was studied for 1GΩ resistor



The red curve indicates data collected without Phadkage whereas blue curve indicates data collected with Phadkage.

It can be clearly concluded from above graphs that the noise levels are substantially reduced by the Phadkage.