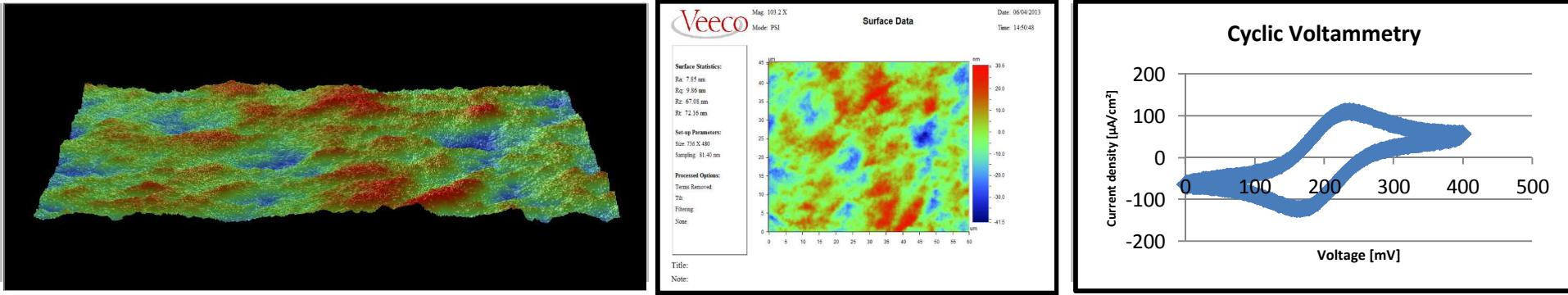


Exceptional service in the national interest



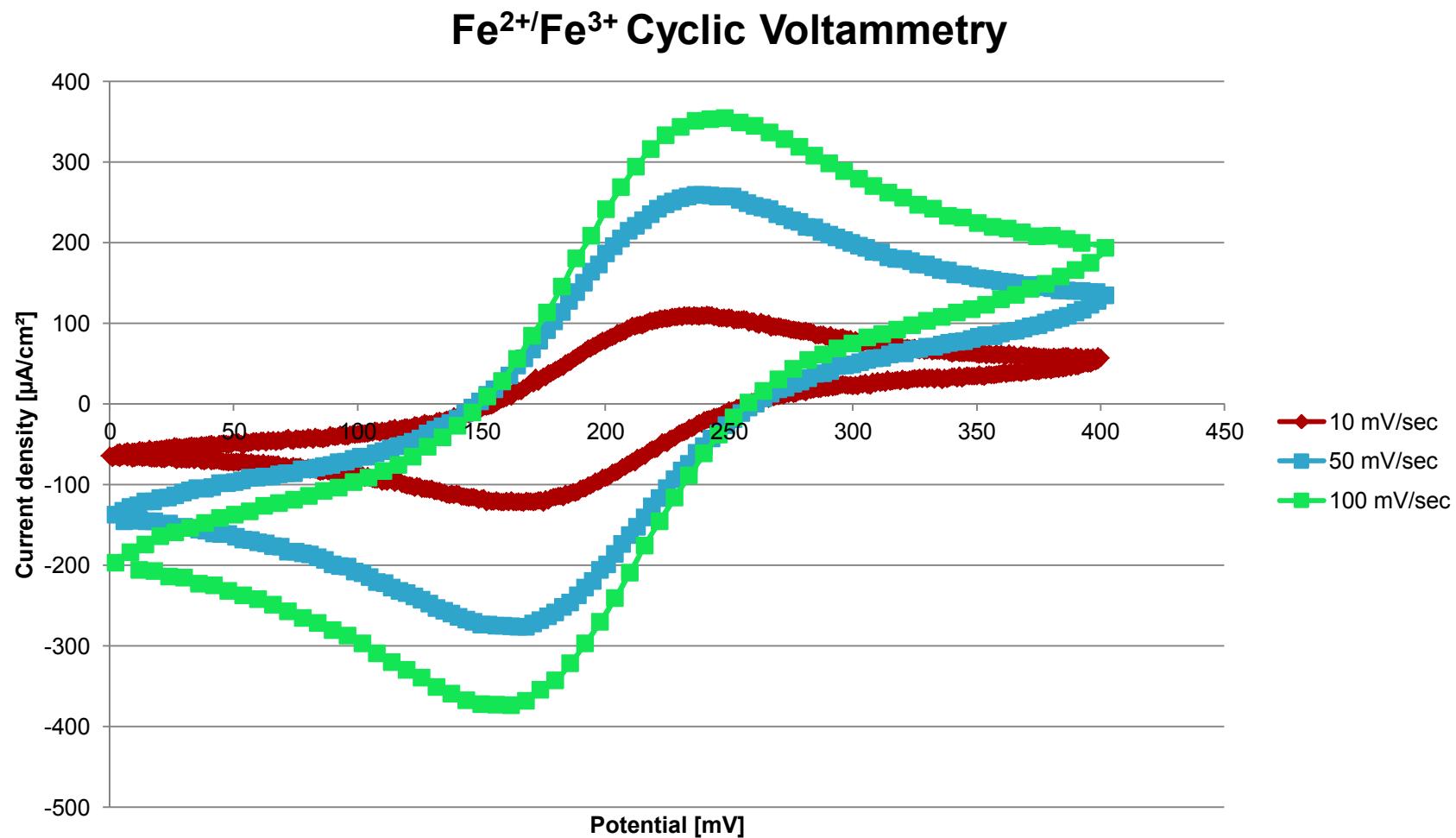
Electropolishing of Z Targets

Midshipman 3/C Tahler Bandarra
Advisor: W. Graham Yelton

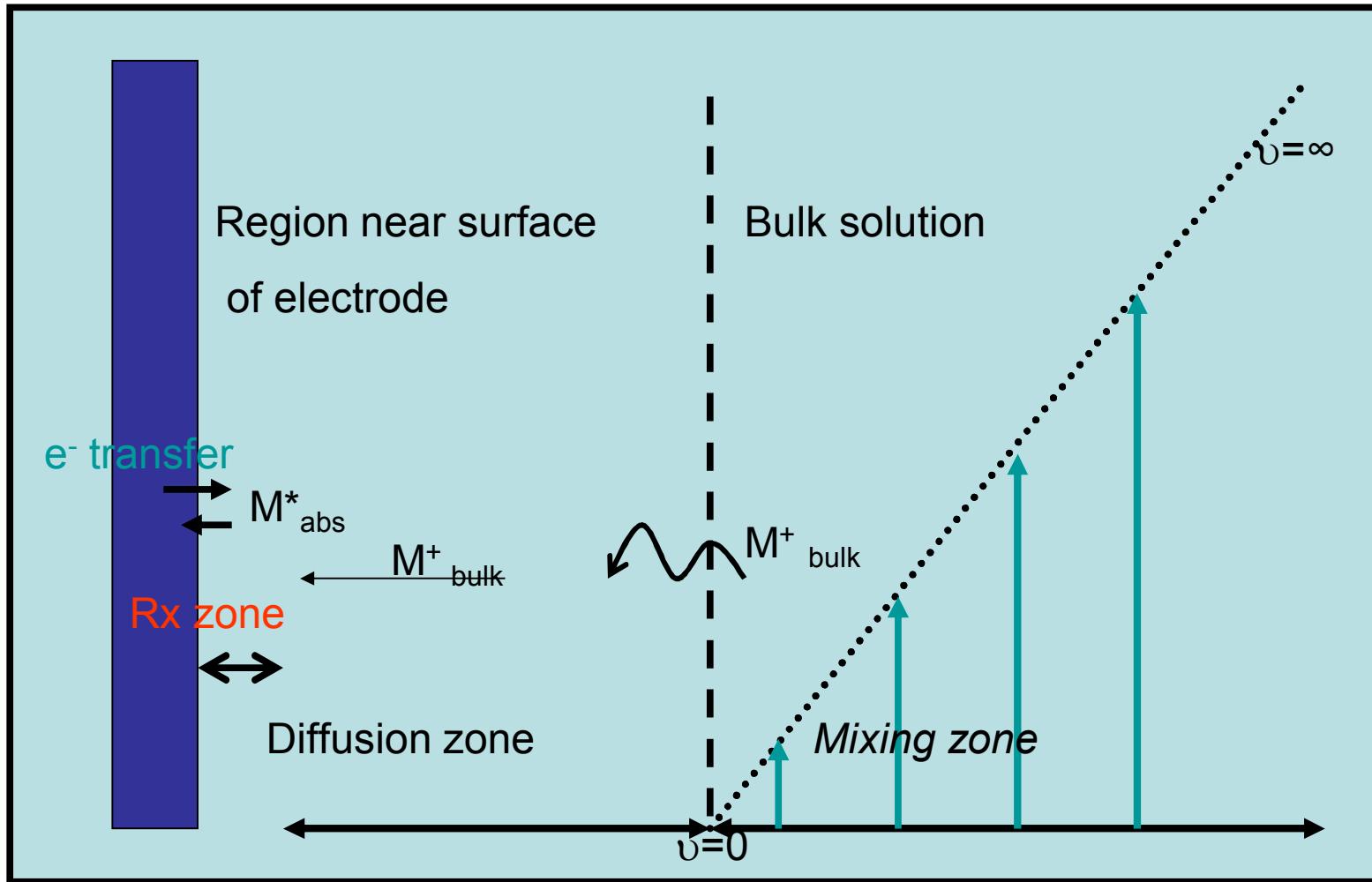


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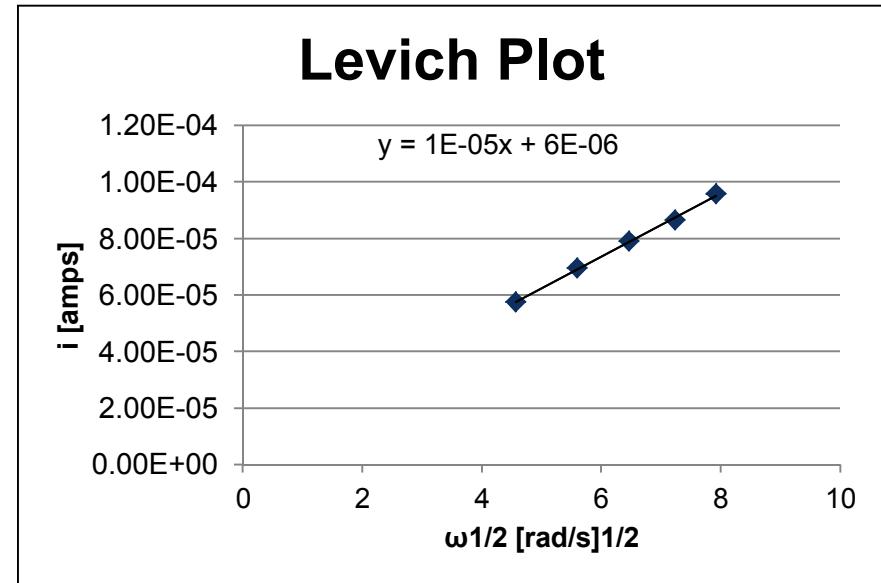
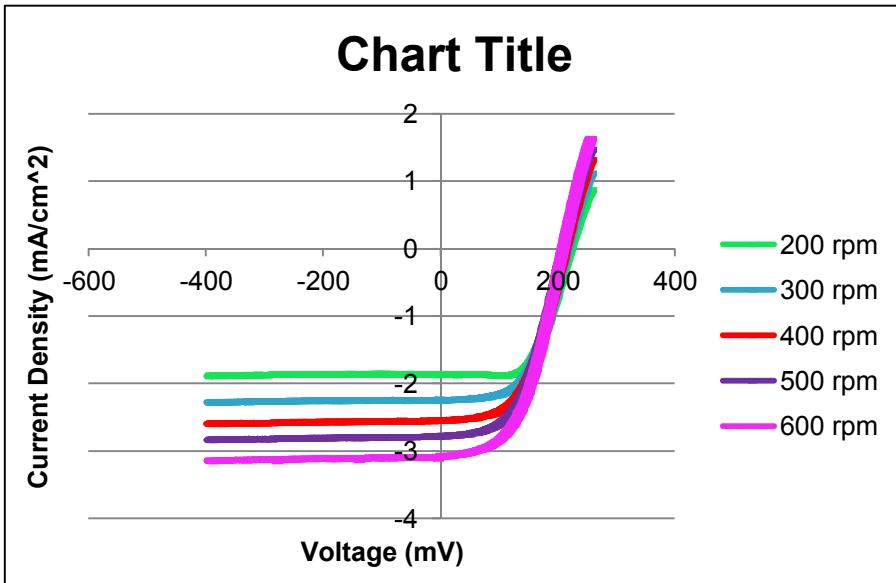
Cyclic Voltammetry



Diffusivity



Levich Equation and Diffusivity



$$i_l = 0.620nFAD_o^{2/3}\omega^{1/2}\nu^{-1/6}C_o$$

Experimental Diffusion Coefficient =
3.9107E-6 cm/s

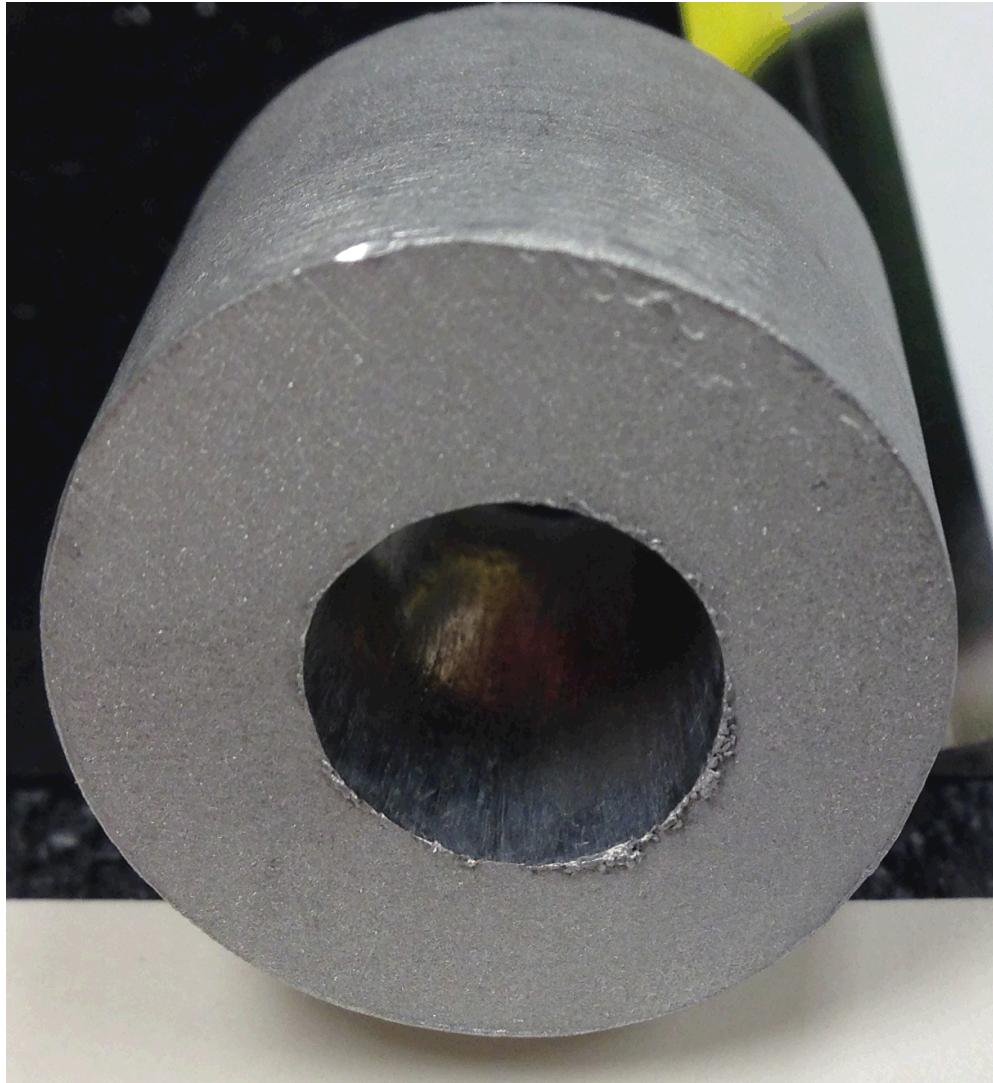
Literature Diffusion Coefficient=
7.60E-6 cm/s¹

Manual Labor



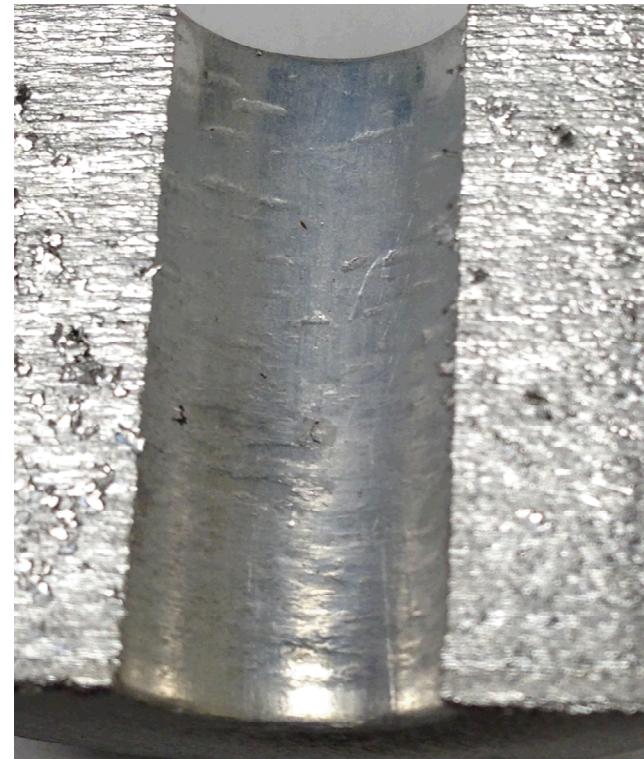
- Before beginning the electropolishing process, the samples had to be polished by hand after the rough machining.

Hand polished finish

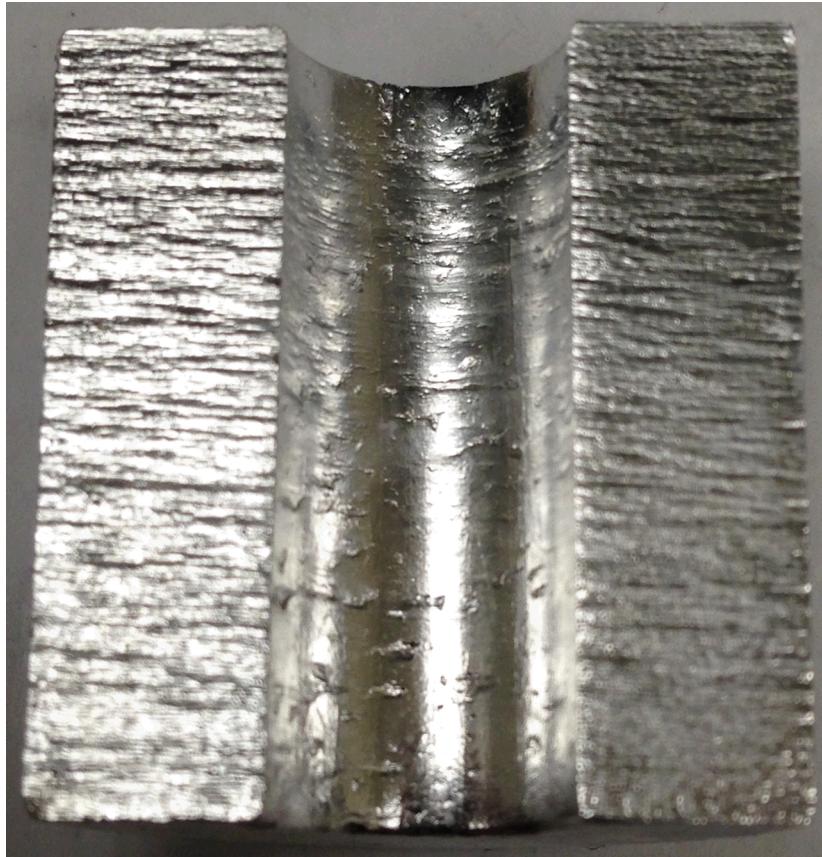


Anodization

- Barrier anodization was used to further reduce the surface roughness



Electropolishing



- Spikes of current are run to allow the polish to strip off aluminum

Smaller Sample

