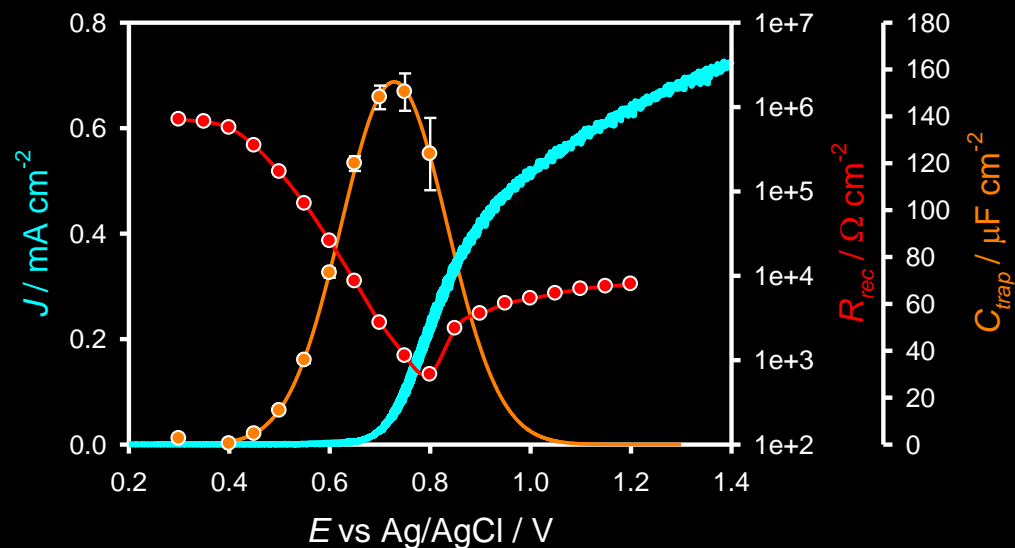
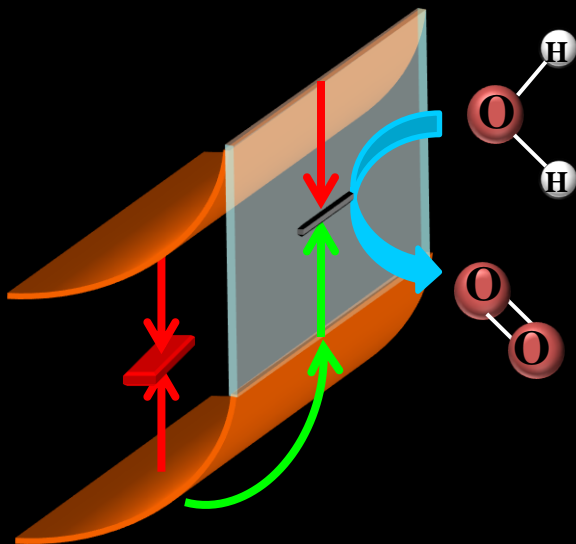


# Thin Film Absorber Solar Cells Using Earth Abundant Materials

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We used Impedance Spectroscopy to elucidate the mechanism of water oxidation on thin film hematite electrodes. We found that water oxidation occurs via charge transfer from surface trapped holes. This is indicated by the build up of a surface state capacitance (orange circles) coincident with a drop in resistance (red circles) and onset of water oxidation photocurrent (blue line).



We are currently scaling up the light absorption of the thin films deposited via atomic layer deposition (below) by depositing them on high aspect ratio transparent conductive oxide substrates (right)

