Manganese doped Scandium Oxide as a Cathode for Fuel Cells
BRIDGER ANDERSON, PAUL RUGHEIMER, YVES IDZERDA, Montana State University — Current fuel cells contain a porous mixed ionic and electronic conductive cathode such as LSCF (Lanthanum Strontium Cobalt Ferrite). The porosity of LSCF is necessary to transport oxygen to the cathode electrolyte interface. The potential advantage of using an alternate cathode material such as Manganese doped Scandium Oxide (MSO) is the possibility of oxygen transport through a solid cathode, eliminating the additional complications introduced by cathode pores. We are investigating structural properties of rare earth and transition metal doped Scandium Oxide for application as a cathode layer in fuel cells. Here we report the results of X-ray Absorption Spectroscopy and X-ray Diffraction measurements done on pure and rare earth or transition metal doped ScO3.