Abstract Submitted
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Crystalline structure of Solid Acid under different partial pressures[1] ALEXANDRA DOMINGUEZ, CRISTIAN BOTEZ, University of Texas at El Paso — Solids acids (such as Cesium Dihydrogen Phosphate CsH_2PO_4 (CDP)) have the particular property to become *superprotonic* at temperatures around 232 C (that is, its proton conductivity suddenly increases around three figures) which makes them attractive to be used as electrolytes for fuel cells. Unfortunately, around the temperature that they become *superprotonic*, they start to dehydrate too. In order to overcome this problem the sample was ran under a humid atmosphere. X-Ray Diffraction technique (XRD) was used to analyze the crystal structure of the CDP sample. This is relevant since the nature of the super protonic behavior of the sample is attributed to a polymorphic change transition from monoclinic (room temperature (RT)) to cubic at 232C.

[1]We would lilke our sponsor D.O.D. (GN 64705CHREP)

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