

## Effect of Natural Fe<sub>2</sub>O<sub>3</sub> Doping on Performance of Lithium Phosphate Ceramic Glass as Secondary Battery Cathode

<b>Title</b>	Effect of Natural Fe <sub>2</sub> O <sub>3</sub> Doping on Performance of Lithium Phosphate Ceramic Glass as Secondary Battery Cathode
<b>Author Order</b>	of
<b>Accreditation</b>	
<b>Abstract</b>	Natural Fe <sub>2</sub> O <sub>3</sub> doped lithium phosphate Ceramic-glass was made by glass route method at 900 oC with the composition of 5Li <sub>2</sub> CO <sub>3</sub> :15ZnO : x Fe <sub>2</sub> O <sub>3</sub> : (80 - x) P <sub>2</sub> O <sub>5</sub> , where x = 0; 0.5; 1.5 (in mol percent). Thermal stability of sample was studied through determination of glass temperature T <sub>g</sub> and crystal temperature T <sub>c</sub> . XRD pattern and LCR meter measurement were carried out to determine phase, structure and ionic conductivity of the ceramic-glass samples. LiFePO <sub>4</sub> was formed at 1.5% addition of Fe <sub>2</sub> O <sub>3</sub> . Ionic conductivity rise up by the increasing Fe <sub>2</sub> O <sub>3</sub> concentration. The highest electric conductivity is 8,42 x 10 <sup>-4</sup> S/cm which was obtained at 1.5% addition of Fe <sub>2</sub> O <sub>3</sub>
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