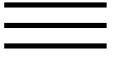


Solid state electrolytes: Overview of materials and applications during the last third of the twentieth century.

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Solid state electrolytes: overview of materials and applications during the last third of the Twentieth Century

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Abstract

Solid state ionics has been a very active field of science during the last third of the century. However, the first observations of conductivity in solid electrolytes occurred over 150 years ago. Faraday reported the transport of silver ions through silver sulfide in 1834. The present report describes some of the more recent investigations of solid state ionic materials and devices, with emphasis on room temperature materials and solid state batteries. Prof. Osamu Yamamoto and his colleagues discovered the most conductive room temperature solid ionic material that is known up to the present time. This compound is $\text{Rb}_4\text{Cu}_{16}\text{I}_7\text{Cl}_{13}$ with a specific conductivity of 0.34 S/cm at 25°C .



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Keywords

Solid electrolyte; Solid state ionics; Batteries; Silver ion conductor; Copper ion conductor

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