POLYMER SOLID ELCTROLYTES

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Ionic conducting polymers or polymer solid electrolytes are emerging as viable substitutes for inorganic solid electrolytes in many practical applications which include solid state batteries and smart windows.

Polymer solid electrolytes offer a number of special advantages compared to inorganic solid electrolytes: the electrolytic phase can be readily formed with greatly reduced thickness, shaped in any desired configuration and is often basically of low cost. In addition, the mechanical flexibility of the polymer enables solid-state cells to be designed with improved performance. However, the mechanism of ion-transport in polymers is not well understood yet. This lecture gives an overview of polymer solid electrolytes and discusses some models proposed for ion-transport mechanism.