

Spin Coated Polymer Electrolyte for Solid State Thin Film  
Lithium Polymer Batteries

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Using spin coating method, we obtained solvent free solid  $(\text{PEO})_n\text{LiPF}_6$  ( $n=6\sim 12$ ) electrolyte thin film of  $10\sim 50\mu\text{m}$  thick. Ionic conductivities of spin coated electrolyte are  $10^{-6}\sim 10^{-8}\text{S/cm}$  at room temperature depending on film composition and thickness. With these electrolyte we fabricated all solid state thin film lithium polymer batteries which have total thickness of  $12\sim 50\mu\text{m}$ . Charge-discharge performance of these batteries was investigated. These results indicated that spin coated polymer electrolyte,  $(\text{PEO})_n\text{LiPF}_6$  has comparable properties for a thin film lithium polymer battery.