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Area E

Symposium E3

Title Anion and Cation Transport in Materials for Energy Storage		
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Abstract		
<p>Solid electrolytes play a vital role in many research fields and applications such as batteries, fuel cells and sensors. This symposium will cover fundamentals and applications of solid ion conductors. There are many possibilities to manipulate translational cation and anion dynamics in crystalline and amorphous materials including, for example, doping, nanostructuring and nanoconfinement, introducing structural (site) disorder, formation of composites and hybrid (organic-inorganic) materials. Many of these functional materials may take advantage of interfacial effects and space charge regions to enhance ionic transport. The symposium will put emphasis on exploring the origins and mechanisms that are responsible for fast ion dynamics in solid ion conductors.</p> <p>Targeted topics include but are not limited to:</p> <ul style="list-style-type: none">▪ crystalline, amorphous and glassy solid ion (H, Li, Na, Mg, F, O, ...) conductors▪ polymer electrolytes, hybrid organic-inorganic materials▪ composite solid electrolytes, nanostructured materials, insertion materials▪ materials offering low-dimensional diffusion▪ mixed conductors, coupling of ionic with electronic transport▪ thin film solid electrolytes▪ insights from modelling and theory▪ new methods to probe ionic motions in solids		