**Novel Cathode materials for Na-ion batteries**

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 **Abstract**

Sodium-ion based batteries are attracting wide attention due to their unique characteristics in terms of high energy density. These serve as a link to the difference in the energy performance between traditional charge carriers and fuel cells/ batteries. Global research has been reported in this regard, and advancement in the basics and applied aspects of sodium-ion batteries are progressing rapidly. In addition to the gradient concentration of the transition metal ions, the composition of cathode shows significant performance and stability. Nano-rod particles individually possess strong crystallographic texture changing with centre of spherical particle. The present paper describes the cathode materials, structural and electrical properties. In addition to this, the technologies and operating principles of the cathode materials used in sodium-ion battery are also discussed in detail.