

## Long Range and Local Structure in Layered Oxides for Lithium Batteries

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Li-ion batteries are promising candidates for electrical energy storage in applications ranging from portable electronics to hybrid and electric vehicles. In this context, layered compounds in the  $\text{Li}_{1+\delta}(\text{TM}_x\text{Mn}_{1-x})_{1-\delta}\text{O}_2$  family (TM=transition metal) have received much attention due to their high capacity and stability. In this Research News article we describe recent advances on structural characterization of Li-ion electrode materials using state-of-the-art electron microscopy. Direct evidence of the monoclinic nature of  $\text{Li}_2\text{MnO}_3$  has been provided. It has been demonstrated that differences in Z-contrast imaging between  $\text{Li}_2\text{MnO}_3$  and  $\text{LiTMO}_2$  may be used to screen samples for phase separation in the 10–100 nm scale.