ELECTRONIC STURCUTURE STUDIES IN TRANSITION METAL OXIDES

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In this talk, we are interested in presenting a survey of the transition metal oxide measurements including layered perovskites as well as manganates obtained by us from various SR facilities around the world and a comparison vis-à-vis with laboratory sources. Emphasis will be given to electron doped CMR materials as given below:

In this paper, we are going to present Ce $M_{5,4}$, Mn $L_{3,2}$ and O K-edges of LaCeMnO (20,30 and 50% Ce) and explained their subtle changes in terms of near-neighbour environment. Chemical shifts and spectral shape of the absorption peak in XAS spectrum could be deduced from charge variations when difficult or nearly impossible to calculate in these multicomponent systems. A comparison with other perovskites will be presented and the subtle changes observed will be ascribed to the electronic configuration changes in these systems.