OXIDE CHALCOGENIDES AND MAGNETIC ORDERING OF TRANSITION METAL OXIDE CHALCOGENIDES AND OXIDE PNICTIDES

S J Clarke

1Department of Chemistry, University of Oxford, Inorganic Chemistry Laboratory, South Parks Road, Oxford, OX1 3QR, UK

Oxide chalcogenides and oxide pnictides have become of increasing interest following the discovery of the iron-based pnictide and chalcogenide superconductors. In this presentation the synthesis (using high-temperature and soft techniques), crystal structures and physical properties of a series of layered oxide arsenides and oxide chalcogenides will be described and the changes in magnetic ordering and other physical properties will be described as functions of temperature and composition, and related to changes in crystal structure. In particular, the complex polymorphism in CaFeSeO [1], the changes in magnetic structure of Sr$_2$CrO$_2$Cr$_2$As$_2$ [2] as a function of temperature and the changes in magnetic structure in the series Sr$_2$CoO$_2$Cu$_{2-x}$Se$_2$, Sr$_2$CoO$_2$Ag$_{2-x}$Se$_x$, Sr$_2$MnO$_2$Cu$_{1.5-x}$S$_2$ [3] and Sr$_2$MnO$_2$Ag$_{1.5-x}$Se [4] which occur as a function of coinage metal content, and hence transition metal oxidation state will be correlated with composition and structure.

**Keywords:** Oxide chalcogenide, Oxide pnictide, Magnetic ordering

**References:**


Presenting author's email: simon.clarke@chem.ox.ac.uk