M11.EE Magnetic and Inelastic Scattering

Chair: M.J. Cooper
Co-Chair: G.H. Lander

Attendance: 39

Microsymposium 12EE on ‘Perovskites and Related Materials’ was organised by Paul Attfield (Cambridge) and Juan Rodriguez-Carvajal (LLB, Saclay). The main theme was oxide materials with unusual electronic or magnetic properties. Pierre Bordet (CNRS, Grenoble) described a detailed search for structural anomalies at the superconducting transition in $HgBa_2CuO_{4+d}$ using single crystal and powder diffraction data combined with EXAFS spectra. A general treatment of tilting in perovskites was given by Pat Woodward (Ohio State). He also presented a new computer program to derive the tilt systems for complex, cation ordered perovskites. Maria Fernandez-Diaz (ILL, Grenoble) reported a remarkable charge disproportionation coupled to a structural transition in the undoped lanthanide nickelate perovskites $LnNiO_3$. The session ended with two talks on layered manganite perovskites. John Mitchell (Argonne) showed how new CMR Ruddleston-Popper phases could be prepared by controlling oxygen stoichiometry, and Vincent Caignaert (Caen) described the preparation of La/Ba ordered and disordered polymorphs of $La_{0.5}Ba_{0.5}MnO_3$ and discussed their different physical properties. Altogether, the session illustrated the continuing challenge to understand the relationships between composition, structure and properties in perovskite oxides.

Paul Attfield