

# Dynamic phase separation in manganites

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The phenomenon known as phase separation, the coexistence at different length scales of ferromagnetic metallic and antiferromagnetic charge and orbital ordered insulating domains, have recently dominated the literature on manganese oxides, the so called manganites. In this talk, after reviewing the basic aspects of the physics of manganites, we will show magnetization and transport measurements on samples of (LaPr)CaMnO, one of the prototype materials for the study of phase separation. We focused our attention on the dynamic properties of the phase separated state, with emphasis on time relaxation measurements which unveils the equilibrium ground state of the system. Within this framework we discuss some particular features of the phase separated state, such as its glass-like behavior and ultrasharp magnetization jumps. Finally, we construct an H-T phase diagram, where frozen and dynamic phase separation regions are clearly distinguished.