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Magnetic and transport signatures of Rashba spin-orbit coupling on the Kondo lattice model in two dimensional clusters[1] JOSE RIERA, Universidad Nacional de Rosario, Argentina — Motivated by emergent phenomena at oxide surfaces and heterostructures, particularly those involving transition metal oxides with perovskite crystal structure such as $LaTiO_3/SrTiO_3$, we examine the Kondo lattice model in the presence of a Rashba spin-orbit coupling (RSOC). Using an array of numerical techniques, under the assumption that the electrons on localized orbitals may be treated as classical continuum spins, we compute various charge, spin and transport properties on square clusters and on ladders at zero and finite temperatures. The main goal is to determine magnetic and transport signatures due to the RSOC. The same model can be used to study at an effective level the combined effect on magnetic and transport properties of Rashba and ferromagnetic moments, such as the ones present at $LMnO_3/SrMnO_3$ interfaces.

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