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Magnetic behaviour of the $Bi_{2-x}Sr_xIr_2O_7$ pyrochlore CARLOS COSIO-CASTANEDA, GUSTAVO TAVIZON, Fac. Quimica, PABLO DE LA MORA, Fac. de Ciencias, FRANCISCO MORALES, ROBERTO ESCUDERO, Inst. de Materiales, Universidad Nacional Autonoma de Mexico — Polycrystalline compounds of the $Bi_{2-x}Sr_xIr_2O_7$ solid solution have been synthesized. These compounds were obtained by the solid state reaction method in the $0 < x < 0.9$ range with the α-pyrochlore crystal structure. This material was characterized with Crystalline Rietveld refinement and cyclic voltammetry. These analyzes permitted the understanding of the unit-cell modifications and valence states of Iridium as a function of the strontium content. Electrical characterization of samples in the 10-300K range shows a metallic character that remains for the whole solid solution. Magnetically this system behaves as a Curie-Weiss paramagnetic in the 2-300K range. The measured magnetic moment values suggest the presence of Ir^{5+} in some compounds of the solid solution.

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