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Tailoring magnetic order in nanowires by alloying 5d Transition Metal elements JAVIER GUEVARA, Escuela de Ciencia y Tecnologia-UNSAM e INN-CNEA, TRISTANA SONDÓN, Departamento de Física e INN-CNEA, ANDRES SAUL, CRMCN-CNRS, Marseille, Francia — The magnetism of pure-element nanowires have been theoretically studied and show, in the case of Au, Pt, and Ir, none or very low magnetic moment values but Os. In this work we study the magnetic properties of $A_{1/2}B_{1/2}$ nanowires, being A,B=Os, Ir, or Pt, by using the ab-initio Wien2k code. These alloyed nanowires have large magnetic moment values, and also giant MAE of different signs. We show the evolution of the spin and orbital magnetic moments as the magnetization axis is being varied.

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