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Electronic structure of Pb-intercalated graphene on Ir(111): an ab initio study MIKHAIL OTROKOV, Centro de Fsica de Materiales CFM-Materials Physics Center MPC, Centro Mixto CSIC UPV/EHU, HCTOR OCHOA, Department of Physics and Astronomy, University of California, Los Angeles, California 90095, USA, FRANCISCO GUINEA, AMADEO L. VZQUEZ DE PARGA, RODOLFO MIRANDA, Instituto Madrileo de Estudios Avanzados en Nanociencia (IMDEA-Nanociencia), Cantoblanco, 28049 Madrid, Spain, EVGUENI V. CHULKOV, Donostia International Physics Center (DIPC), 20018 Donostia-San Sebastian, Spain, ANDRS ARNAU, Dept. of Materials Physics, University of the Basque Country UPV/EHU, 20018 Donostia-San Sebastian, Spain — Extending graphenes electronic properties beyond those intrinsically inherent to it is a great challenge of the contemporary condensed matter physics. In particular, because of graphene's extremely weak spin-orbit coupling, currently there is an intense research aiming at inducing pronounced spin-orbit effects in it [**?**, **?**, **?**]. We present the results of our *ab initio* study of the graphene on Ir(111), intercalated by a monolayer of Pb atoms. We discuss system's crystal and electronic structures, as well as spin texture and analyse the influence of the intercalated Pb monolayer on the graphene π bands.

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Mikhail Otrokov
CFM, MPC, Centro Mixto CSIC UPV/EHU

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