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**Self-assembly of metal phthalocyanines modulated by different substrates** WENDE XIAO, Institute of Physics, Chinese Academy of Sciences, YUZHANG JIANG, JICHUN LIAN, LIWEI LIU, ZHIHAI CHENG, LI GAO, SHIXUAN DU, HONGJUN GAO — The self-assembly of organic molecules on solid surfaces has made tremendous progresses due to potential applications in organic nano-devices. Among the organic molecular building blocks, metal phthalocyanines (MPcs) have been attracting considerable interests because of their novel electronic and magnetic properties. The self-assembly and physical properties of MPcs on various surfaces have been investigated by scanning tunneling microscopy and spectroscopy (STM/STS). In this presentation, we will report on the self-assembly of iron phthalocyanine (FePc), manganese phthalocyanine (MnPc) and nickel phthalocyanine (NiPc) on Pb(111) and monolayer graphene (MG) epitaxy on Ru (0001) by means of low temperature (LT) STM. Highly ordered close-packed islands with square lattice are observed for all three kinds of MPcs growth on Pb(111), whereas regular dislocation lines are formed in the molecular islands of FePc on Pb(111). We find that the Kondo resonance of MnPc on Pb(111) is strongly location-dependant. For FePc, MnPc and NiPc growth on MG, dispersive single molecules, dispersive molecular lines and small patches of Kagome lattice are observed, respectively.

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