

Publication**2D KBr/Graphene Heterostructures-Influence on Work Function and Friction****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 4642588**Author(s)** Liu, Zhao; Hinaut, Antoine; Peeters, Stefan; Scherb, Sebastian; Meyer, Ernst; Righi, Maria Clelia; Glatzel, Thilo**Author(s) at UniBasel** [Glatzel, Thilo](#) ; [Hinaut, Antoine](#) ; [Meyer, Ernst](#) ;**Year** 2022**Title** 2D KBr/Graphene Heterostructures-Influence on Work Function and Friction**Journal** Nanomaterials**Volume** 12**Number** 6**Pages / Article-Number** 968

The intercalation of graphene is an effective approach to modify the electronic properties of two-dimensional heterostructures for attractive phenomena and applications. In this work, we characterize the growth and surface properties of ionic KBr layers altered by graphene using ultra-high vacuum atomic force microscopy at room temperature. We observed a strong rippling of the KBr islands on Ir(111), which is induced by a specific layer reconstruction but disappears when graphene is introduced in between. The latter causes a consistent change in both the work function and the frictional forces measured by Kelvin probe force microscopy and frictional force microscopy, respectively. Systematic density functional theory calculations of the different systems show that the change in work function is induced by the formation of a surface dipole moment while the friction force is dominated by adhesion forces.

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