

# Atomically structured metallic nanowires on the KBr passivated INSB surface

*Szymon Godlewski, Grzegorz Goryl, Maria Goryl, Jacek Kolodziej, Franciszek Krok,  
Marek Szymonski*

*Centre for Nanometer-Scale Science and Advanced Materials, NANOSAM,  
Faculty of Physics, Astronomy, and Applied Computer Science, Jagiellonian University,  
Reymonta 4, 30-059 Krakow, Poland*

In recent years organic semiconducting layers deposited on various surfaces as well as single-molecule devices have attracted considerable attention because of a rapid development of new technologies for electronics. Although computing devices based on a single-molecule concept are still at a very early design stage they attract more and more attention. The demand to functionalize logically and control electronically organic molecules requires application of very complex templates. The existence of different adsorption sites would enable to connect or isolate electrically the molecules from the substrate. In our talk we will present the novel template for organic molecules deposition. The template consist of semiconducting InSb(001) c(8x2) reconstructed substrate covered with insulating KBr pseudomorphic thin layers with atomically structured metallic nanowires created during gold deposition. We will present atomically resolved LT-STM (obtained at 77K) images and discuss the properties of the whole system including the properties of the insulating thin KBr layers (thin film epitaxial growth and superimposed interface states structures) and metallic contacts (creation of In-Au alloy). The electronic properties will be discussed on the basis of STM/STS measurements.

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