

Abstract Submitted  
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**Hydrogen adsorption configurations on Ge(001) probed with STM** AMIRMEHDI SAEDI, BENE POELSEMA, HAROLD ZANDVLIET, Univ. of Twente — The adsorption of hydrogen on Ge(001) has been studied with scanning tunneling microscopy at 77 K. For low doses (100 L) a variety of adsorption structures has been found. We have found two different atomic configurations for the Ge-Ge-H hemihydride and a third configuration that is most likely induced by the dissociative adsorption of molecular hydrogen. The Ge-Ge-H hemihydride is either buckled antiparallel or parallel to the neighboring Ge-Ge dimers. The latter configuration has recently been predicted by M. W. Radny et al. *J. Chem. Phys.* 128, 244707 (2008), but not observed experimentally before.

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