

Abstract Submitted  
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**Negative differential resistance of TEMPO on Si(111)** ANN-SOFIE HALLBACK, HAROLD J W ZANDVLIET, BENE POELSEMA, University of Twente — Negative differential resistance (NDR) has been observed for individual 2,2,6,6-tetramethyl-1-piperidinyloxy (TEMPO) molecules, adsorbed on Si(111) at room temperature. Measurements were performed in ultra high vacuum (UHV) using scanning tunneling microscopy (STM) and - spectroscopy (STS). NDR effects were observed exclusively at negative bias voltage on the used n-type Si(111) sample. TEMPO was observed to adsorb preferentially at corner adatom sites of the Si(111)-7x7 structure. Although the Si(111)-7x7 reconstruction was conserved, local defects were observed in the vicinity of the TEMPO adsorbates.

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