

Abstract Submitted  
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**Ethane Adsorption on Carbon Nanohorns**<sup>1</sup> BRICE RUSSELL, ALDO MIGONE, Department of Physics, Southern Illinois University, Carbondale, IL 62901, USA, SUMIO IIJIMA, MASAKO YUDASAKA, National Institute of Advanced Industrial Science and Technology, Tsukuba 305-8565, Japan — We have measured adsorption isotherms for ethane adsorbed on as-produced single-walled carbon nanohorns. Measurements have been completed for nine temperatures between 123.66 K and 221.32 K. The kinetics of adsorption will be compared to results previously obtained for ethane adsorption on purified HiPco single-walled carbon nanotubes. On nanotubes it was found that equilibration times for ethane decreased with increasing sorbent loading (coverage). By contrast, for adsorption on the as-produced nanohorns, equilibration times increased with increasing sorbent loading. The kinetic results for sorbent mass loading will be compared to an expression with only one rate-controlling mechanism. The point-B method was used to determine monolayer completion values at each temperature. Results will also be presented for the isosteric heat values, which were determined for the full range of loadings covered by the isotherms.

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Brice Russell  
Department of Physics, Southern Illinois University,  
Carbondale, IL 62901, USA

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