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Study of Carbon Dioxide adsorption on Purified HiPco Nanotubes[1] SHREE BANJARA, VAIVA KRUNGLEVICIUTE, ALDO MIGONE, Department of Physics Southern Illinois University — We have investigated the adsorption characteristics of carbon dioxide on purified HiPco single-walled carbon nanotubes. We measured four full isotherms (starting from zero CO_2 coverage an ending at the saturated vapor pressure) for temperatures between 150 K and 187 K. While a linear plot of the adsorption isotherms presents initially a relatively broad region of rapid coverage increase with pressure, logarithmic plots of the isotherms are characterized by the absence of any substeps in the data. The equilibration times for each point along the isotherms are much longer than those for other simple adsorbates (e.g., CH_4 or Ar) on the same sorbent. Results for the effective monolayer capacity as well as values for the isosteric heat of adsorption's dependence on sorbent loading will be presented.

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