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One- and two-dimensional Ne adsorbed on carbon nanotube bundles[1] SUBRAMANIAN RAMACHANDRAN, OSCAR VILCHES, TATE WILSON, DAMIEN RAMUNNO-JOHNSON, University of Washington — We report initial results from an experiment that measures the heat capacity of Ne adsorbed on HiPco^{TM} purified single- wall close-ended carbon nanotube bundles. The calorimeter is a thin wall copper cell containing 413 mg of bundles. We have obtained data for two coverages of about 0.05 and 0.36 monolayers in the temperature range from 1.9K to 18K. The first coverage is at a density within the one-line of atoms on either heterogeneous interstitial sites or outside of the bundle grooves, while the second coverage is in the expected three- line of Ne atoms formed on the outside grooves phase. We don't find any anomalies in the heat capacity in these 1d phases in the range measured. The experiment is continuing into densities of films adsorbed on the outside surface of the bundles, where we expect to see remnants of the two-dimensional triple point melting of monolayer Ne/graphite or Ne/graphitized carbon blacks.

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Oscar Vilches
U. of Washington

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