Abstract Submitted
for the TS4CF08 Meeting of
The American Physical Society

Electronic structure of novel semiconducting nanotubes PETER LYON, BRET HESS, Brigham Young University — Since their discovery, nanotubes have attracted much interest because of their potential usefulness in many areas of science and technology. Although carbon nanotubes have received most of that attention, new types of nanotubes with similar structure have recently been studied. A family of nitride nanotubes, including boron-nitride, aluminum-nitride, and gallium-nitride have been predicted theoretically and some have been created in the laboratory. We are investigating the stability and electronic structure of gallium phosphide and gallium arsenide nanotubes using density functional theory.

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Date submitted: 22 Sep 2008 Electronic form version 1.4