

319a Silicon and Si/Ge Nanowires Grown by UHV-CVD and MBE

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After a short overview of the various nanowire and nanorod activities for various materials at MPI-Halle we will concentrate on the growth and properties of UHV-CVD grown silicon nanowires and compare the results to the case of silicon and Si/Ge nanowire growth based on molecular beam epitaxy. The growth directions of epitaxially grown silicon nanowires depend on their radii. The observed dependence will be compared to results obtained for nonepitaxial growth in the literature. The difficulties involved in realizing Si/Ge heterostructures with sharp transitions will be discussed. Various approaches to get ordered arrays of nanowires will be discussed as well as some electrical measurements.