

Physics of nanowires and nanotubes

Thanks to the synthesis of many new kinds of nanostructure over the last decade, a variety of physical regimes and phenomena have recently become relevant and accessible. The results are of both fundamental interest and practical relevance. Linear nanostructures, that is, nanowires and nanotubes, with one-dimensional character, can be built into electrical devices quite easily. My current research focuses on general aspects of phase transitions, of both quantum and classical varieties, that can be studied by making electrical and optical measurements on such devices. The work typically involves collaborations with theorists and with researchers in other departments