

Abstract Submitted
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Circular dichroism in air-suspended single-walled carbon nanotubes¹ A. YOKOYAMA, A. ISHII, M. YOSHIDA, T. SHIMADA, Y.K. KATO, The University of Tokyo — Chiral carbon nanotubes lack inversion symmetry and are expected to show circular dichroism. We have investigated the helicity dependence of absorption in air-suspended single-walled carbon nanotubes by using photoluminescence intensity for detection. Patterned chemical vapor deposition is used to grow carbon nanotubes over trenches etched on SiO₂/Si substrates. We identified suspended carbon nanotubes by taking photoluminescence images with a home-built laser-scanning confocal microscope and characterized them by excitation spectroscopy. A quarter-wave plate is inserted in the excitation laser path, and the photoluminescence intensity is measured as a function of the angle of the wave plate. We observe differences in the luminescence intensity between left- and right-circularly polarized light.

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