Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

SWNT Imaging Using Multispectral Image Processing MICHAEL BLADES, MASSOOMA PIRBHAI, SLAVA V. ROTKIN, Lehigh University — A flexible optical system was developed to image carbon single-wall nanotube (SWNT) photoluminescence using the multispectral capabilities of a typical CCD camcorder. The built in Bayer filter of the CCD camera was utilized, using OpenCV C++ libraries for image processing, to decompose the image generated in a high magnification epifluorescence microscope setup into three pseudo-color channels. By carefully calibrating the filter beforehand, it was possible to extract spectral data from these channels, and effectively isolate the SWNT signals from the background.

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Date submitted: 19 Dec 2011 Electronic form version 1.4