

Abstract Submitted
for the OSF14 Meeting of
The American Physical Society

Fluorescence of Laser Pointer Light by “Neon” Pigments

CLARISSA ROE, JENNIFER BIRRIEL, Morehead State University — In a short paper to the Physics Teacher, Matt Lowry reports on a serendipitous discovery that a green laser pointer will appear yellow when incident upon a neon pink plastic clipboard. After a cursory examination of the spectrum of the reflected yellow dot, Lowry concludes that the green laser causes fluorescent emission in the pink plastic. The dot appears yellow as a result of the combined spectrum of the fluorescent emission. Here we explore the fluorescence of green and violet lasers incident on a variety of “neon” clipboards and “neon” papers. We find that the reflected light can range in color from yellow to orange to magenta. We examine the spectra of these reflected dots using an RSPEC Explorer Spectrometer. We explain the observed reflected colors and find that the general shape of the fluorescence spectrum is independent of the excitation wavelength, so long as the given object absorbs those wavelengths. We discuss this investigation in the context of similar investigations of fluorescence due to laser pointer light and discuss the use of such experiments in an educational setting.

Clarissa Roe
Morehead State University

Date submitted: 26 Sep 2014

Electronic form version 1.4