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Wavelength Dependant Amplitude of Teflon Raman Lines[1]

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— Teflon is a ubiquitous laboratory material that produces a strong Raman response. While it is an excellent scatterer and frequent test target for alignment purposes, there is surprisingly sparse Raman data for Teflon in the literature. Teflon has been utilized as an external standard in a process to determine Raman cross sections. However, comparison of the relative amplitudes of the prominent Teflon lines indicates a significant effect on line ratios as the excitation wavelength is changed. This dependence on excitation wavelength has been commented on previously and attributed to "pre-resonance effects" but no detailed examination had been undertaken to date. We present the results of a study of Teflon Raman line ratios for excitation wavelengths from 210 nm to 340 nm. Behavior of these lines should be known if Teflon is to be used as a Raman standard as well as for comparison of experiments carried out utilizing different excitation wave lengths.

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