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Defects in polymer multilayer films: A new way to investigate based on Raman microscopy

Polymer multilayer films are presents everywhere in our world. Thus, we can find them in food packaging, on car coatings, in phone protection films, among many other applications. But their characteristics are questioning as soon as a defect is present. Unfortunately, it's not easy to locate this defect, and consequently chemically characterize and identify it.

Confocal Raman microscopy is a perfect candidate for such issue, combining the high spatial resolution of optical microscopy with the chemical identification through the spectral characterization.

This combination makes our Raman confocal microscope the ideal solution for non-destructive highly resolved characterization of the defect realizing a very fast survey mapping of the sample.

Figures

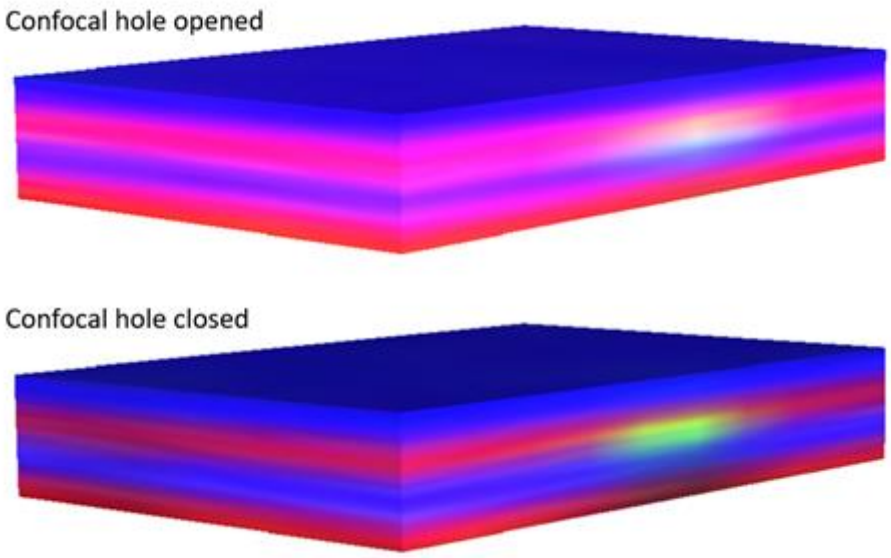

Figure 1: 3D Raman map of an feature in a multilayer polymer sample. The colors represents the different chemical fingerprint. Blue: Plastic tape. Red: Glue. Green: Feature. Map dimension: 500x500x100µm with 50x50x1µm steps. (Top) Map with confocal hole opened. (Bottom) Map with confocal hole closed.