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SmartSampling™: A revolution in Raman imaging

From its beginning more than 50 years ago, the Raman microscopy went through many stages that have marked its history. Thus, starting from the point spectral acquisition at the micron scale, the capability to acquire Raman images opened the door to more and more applications. Then, the ability to the multichannel detectors to be faster and faster improved the speed of measurement and so increased the performances of such Raman imaging systems with less than a millisecond acquisition time per spectrum. However, such performances are possible only on high Raman scattering samples, reducing the concerned applications.

With our solution, we now offer the ability to all applications to improve their speed of Raman imaging. Based on the video contrast, this patented algorithm segments the map area in regions of interests of different sizes. Consequently, a quick preview based on high quality spectra is obtained in few seconds and then this rough image is improved step by step, detail by detail. Thus, good quality images are obtained after only few minutes when it needs hours or days to be completed in classical point-by-point mapping.

In this presentation, we detail how this approach will revolutionize the Raman imaging in all application domains, from physical to life sciences.

Figures

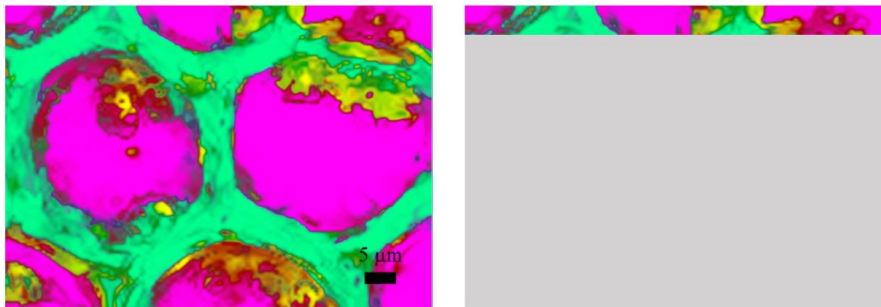


Figure 1: Covallaria cells. (Left) 14 minutes SmartSampling™ Raman image. (Right) Equivalent point by point image obtained in 14 minutes.