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摘要：拉曼光谱成像技术是拉曼光谱分析技术的新发展，借助于现代共焦显微拉曼光谱仪器以及新型信号探测装置，它把简单的单点分析方式拓展到对一定范围内样品进行综合分析，用图像的方式显示样品的化学成分空间分布、表面物理化学性质等更多信息。本文介绍拉曼光谱成像技术的基本原理和实验方法，并且特别介绍HORIBA Jobin Yvon公司的新型快速拉曼成像技术SWIFT和DuoScan，最后用实验实例说明这些技术的重要应用。

关键词：共焦显微拉曼系统，拉曼成像技术，DuoScan拉曼成像技术，SWIFT拉曼成像技术

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### Raman spectral imaging technology: new developments and applications

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Abstract: Raman spectra image is a new development of Raman spectra analysis technology, Supported by the modern confocal micro-Raman system and new signal detector, the traditional single-point measurement was extended to global imaging analysis of a large area. Much more information, such as the nature and distribution of chemical species, the physical or chemical properties of a surface, etc, can be retrieved by Raman image. In this paper we discussed the basic principle and experimental methods of Raman mapping. Particularly, the new DuoScan and SWIFT fast Raman imaging technologies from HORIBA Jobin Yvon were introduced in detail. Finally, some experiment results were provided to show the important applications offered by these Raman imaging technology.

Key words: Confocal micro-Raman spectrometer, Raman imaging technologies, DuoScan, SWIFT

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