Title: Channel waveguide evanescent field emission Raman spectroscopy

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Abstract

Conventional surface-enhanced Raman scattering (SERS) has a poor surface reproducibility, which led to measurement repeatability becoming unreliable, therefore, it is not suitable for quantitative analysis. With the rapid development of nanotechnology in recent years, highly ordered and controllable SERS substrates have been realised, so as to ensure the accuracy of measurements, and SERS signal enhancement factor has also greatly increased. In this research we have undertaken two step innovative research on Nano structured arrays for Raman signal enhancement; and channel waveguide evanescent field emission Raman signal, followed by further exploring and developing in to a high-sensitivity integrated optical SERS sensing device with practical value, which can be used in the fields of detecting contaminants, medical diagnostics, gene research and rapid identification applications.

Biography

Dr Ping Hua graduated in Physics from Suzhou University, China. She obtained the PhD degree in Optoelectronics from the ORC, University of Southampton, UK. Ping has been with the ORC since 1990 where she currently is working as a senior researcher. Ping is also a visiting professor at College of Optoelectronic Engineering, Electronic Science & Technology, Shenzhen University, China. Her research interests include integrated optical waveguide-based sensors applied to biology, chemistry and environmental monitoring systems.