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[New Probe Provides a Major Sensitivity Enhancement for Vapor Phase Raman Spectroscopy.](#)

Tustin, CA, November 7, 2014 – Axiom Analytical Inc., a leading supplier of sampling equipment, software, and integrated systems for all forms of vibrational spectroscopy, today announced the introduction of its RFP-465 Multipass Raman Probe for vapor analysis. This probe provides up to an order of magnitude enhancement in the sensitivity of Raman spectroscopy when used for the analysis of gases. The principles underlying its operation were described in an earlier paper given by Dr. W. Michael Doyle at the International Forum on Process Analytical Chemistry (IFPAC), held in Baltimore Md., January 27 - 30, 2008, and in US Patent 6,795,177 B2. The paper reported the achievement of marked sensitivity enhancement for liquid analysis, with no undesirable side effects. The announcement of the RFP-465 represents the first introduction of a commercial product based on this work as well as its extension to vapor analysis.

Raman spectroscopy is a powerful technique for both laboratory chemical development and on-line chemical process analysis. It combines the specificity of mid-infrared spectroscopy with the convenience and flexibility of near-infrared. It is based on the use of a focused laser beam to cause the material under study to emit a spectrum of optical radiation that is uniquely related to its molecular structure. Dr. Doyle's advance takes advantage of the fact that Raman scattering is an extremely weak phenomenon and is only made practical by the high energy density of the focused laser beam. Very little attenuation of the laser signal takes place. In principle, it is thus possible to pass the same laser beam through a sample more than once. Axiom Analytical's multipass approach makes it possible to accomplish this by means of a straight forward modification to Axiom's standard Raman probes – making multipass Raman spectroscopy practical, economical, and highly effective.

[About Axiom Analytical, Inc](#)

[Axiom Analytical, Inc.](#) was founded in 1988 by Dr. Mike Doyle and Norm Jennings, pioneers in the field of process FTIR spectroscopy. The Company's mission is to develop and market the robust sampling equipment, software, and integrated systems required to fully realize the potential of vibrational spectroscopy for solving economically significant problems both in laboratory analysis and manufacturing processes. The Company's products are employed in diverse industries ranging from basic chemicals to pharmaceuticals, semiconductors, and polymer processing. In short, the Company's products are found wherever process analytical technology (PAT) is being applied. Its hardware products include ATR probes, transmission probes, diffuse reflectance probes, Raman probes, flow cells for gas and liquid analysis, and fiber-optic multiplexers. These cover the full range of molecular analysis including mid-IR, near-IR, UV-visible, and Raman spectroscopy.

Axiom's CEO, Dr. Mike Doyle, was recently awarded the Williams Wright award for 2014, recognizing his many contributions to the field of industrial molecular spectroscopy.

More information about Axiom Analytical Inc. can be found at <http://www.goaxiom.com/>.