

ParticleScout, a new analysis tool for faster detection, classification and identification of microparticles

Determine physical and chemical properties with confocal Raman microscopy.

WITec GmbH, pioneer of Raman imaging and correlative microscopy, has introduced ParticleScout, a revolutionary particle analysis tool for the alpha300 Raman microscope series. It enables researchers to find, classify, quantify and identify particles quickly and easily.

ParticleScout delivers a greatly accelerated workflow to the researcher investigating particulate samples while making full use of confocal Raman imaging's abilities in fast, label-free and nondestructive chemical characterization. It begins by surveying samples with bright and dark field illumination to view the particles they contain. Image Stitching combines many measured areas for a detailed overview of large areas and Focus Stacking allows larger particles to be sharply rendered for accurate outline recognition. The optical images lead to the creation of a mask which is used to physically categorize particles of interest and arrange them in a ranked list. A Raman spectrum is then automatically acquired from each particle.

The Raman spectra are evaluated and the particles they correspond to can be identified manually or by using the seamlessly-integrated WITec TrueMatch Raman database software. This integration of a particle analysis tool with a Raman database is unique in the industry and offers a streamlined experimental environment to boost productivity. Finally, ParticleScout generates a comprehensive report that features user-selectable combinations of filters and advanced algorithms to show the quantities of selected particles and their prevalence relative to other groups. These reports make ParticleScout the perfect tool for finding correlations between the physical and chemical attributes of particles.

From large-area imaging to high-resolution spectroscopy, the technology underlying ParticleScout provides thorough and detailed insight to the researcher in microplastics research, environmental science, pharmaceutical research, geology, food science and many other fields.

"ParticleScout expands our product range into an area that is currently experiencing an enormous boom due to the public debate on microplastics in the environment. Raman spectroscopy is an extremely powerful tool for the rapid identification of these sorts of harmful particles," explains Dr. Joachim Koenen, WITec co-founder and managing director. "In addition, ParticleScout provides an unprecedented level of speed and ease of use in particle analysis with Raman microscopy. With ParticleScout, a time-consuming sequence of individual steps has been transformed into a flowing, continuous and fast process," Koenen continues.

Internet product page: <https://www.witec.de/products/accessories/particlescout/>

Download link high resolution product image (4.7 MB):

<https://www.witec.de/assets/Press/WITecParticleScout.png>

About WITec

WITec GmbH pioneered 3D Raman imaging and correlative microscopy and continues to lead the industry with a unique product portfolio that offers speed, sensitivity and resolution without compromise. Raman, AFM, SNOM and SEM (RISE) microscopes and select combinations thereof can be configured for specific challenges in chemical and structural characterization. WITec's headquarters is located in Ulm, Germany, where all WITec products are developed and produced. Branch offices in USA, Japan, Singapore, China, France and Spain provide a worldwide sales and support network. WITec's enduring success and innovative product range have been recognized by a series of significant industry awards.

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