

press release

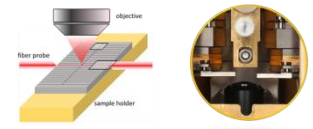
Photonic Probe Station

Photonic Integrated Circuits (PIC) are hot candidates for being employed in the next generation of optical and quantum communication systems because of their promise regarding very high information transfer speed, robustness and the compatibility with standard microelectronics devices technology. Furthermore, the extremely high sensitivity of resonant nanophotonics structures to light-matter interactions makes them ideal for a new classes of sensors with a broad range of possible applications in physics, biology and chemistry.

attocube's new **Photonic Probe Station**, which combines two optical fiber probes and a free optical beam Confocal Microscope (CFMI) provides an ultra-stable, extremely compact and easy to use table top setup for nanophotonic device characterization. The lensed fibers couple in and out the light into the sample planar wave guides. Each fiber probe features three individual degrees of freedom (5 mm^3), which in combination with the large field of view of the integrated inspection optics allows for quick and reliable alignment of each probe to a respective waveguide. Without losing the probe alignment to the waveguide structures, the sample can then be independently positioned in a range of 10 mm x 15 mm under the perpendicular confocal microscope. This allows not only for probing the sample surface, but also for out-of-plane coupling into photonic structures.

Moreover, the **Photonic Probe Station** can be combined with attocube's state of the art attoDRY700 tabletop cryostat for convenient characterization of photonic nanostructures in a temperature range from 3K up to 300K. The sample exchange is accomplished in only a matter of minutes due to a clever vacuum window and a quick exchange sample holder mechanism inside the cryostat. However, the most outstanding feature of the Photonic Probe Station is its ultra low drift, which allows for stable and precise photonics measurements over many hours with intensity variations of less than 1%.

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attocube's Photonic Probe Station

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