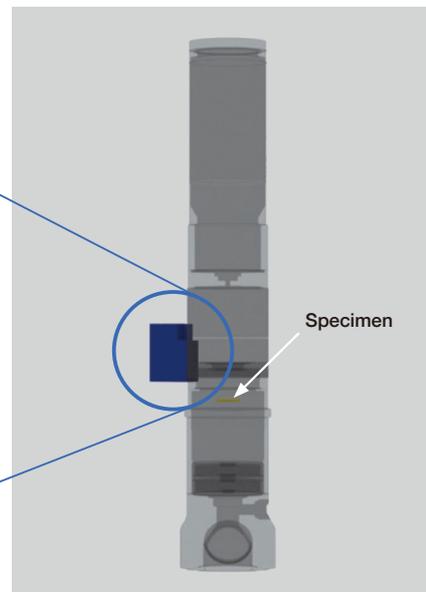


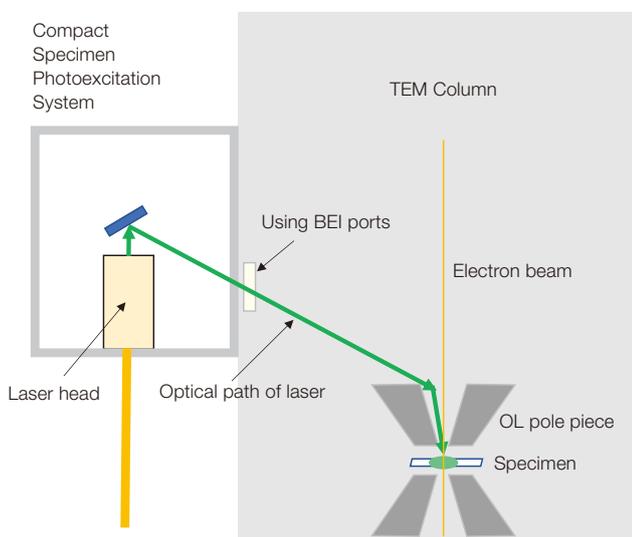
# Luminary™ Micro

## Compact Specimen Photoexcitation System

Luminary™ Micro is a Compact Specimen Photoexcitation System (CPXS) for JEOL TEMs. It is composed of a modulated laser, a compact optical delivery system ( $\mu$ ODS), an inlet port, and a mirror. With this add-on, users can direct and focus the laser output onto the TEM sample in situ. The Luminary™ Micro can induce a rich variety of reactions and dynamic processes in the specimen, thanks to its focus size  $<40\ \mu\text{m}$  FWHM, adjustable peak power up to 3 W, and the modulated pulse widths ranging from a few microseconds to seconds. With the Luminary™ Micro, users can study laser-induced phenomena in situ using fast cameras. Combined with IDES/JEOL EDM fast shutter and/or Relativity subframing systems, Luminary™ Micro allows users to perform time-resolved studies using pump-probe methods in the microsecond time scale. Its footprint is extremely compact, and it can be easily installed without affecting the TEM resolution, yet it does not sacrifice the freedom of choice of specimen holders.



CG based on JEM-ARM300F2



The schematic diagram is simplified.

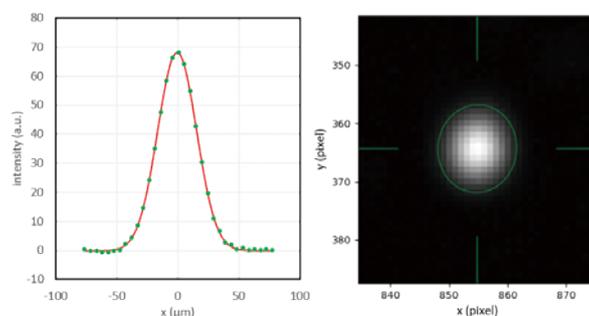
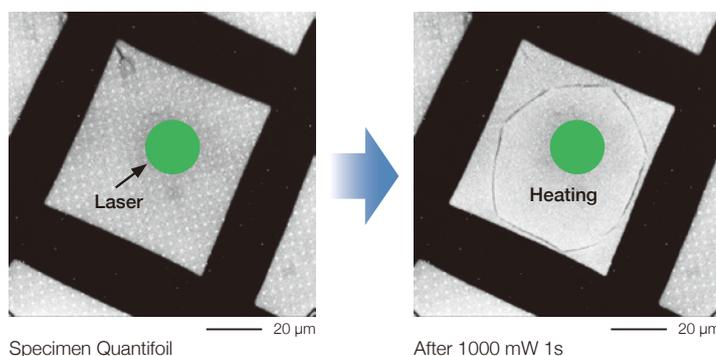
### Features

- Up to 3 W peak power
- Tight focusing ( $<40\ \mu\text{m}$  FWHM)
- Temporal profile from  $\mu\text{s}$  to s
- Remote control of focus position, laser power, pulse duration
- Extremely compact footprint
- No sacrifice for the freedom of choice of specimen holders

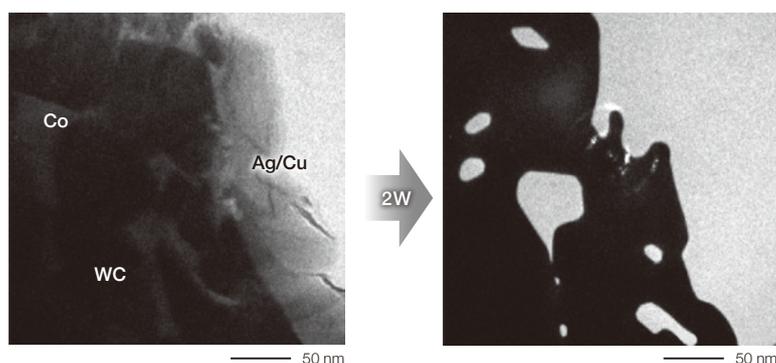
## Specifications

parameters		note
wavelength	577 nm (standard)	532, 642, or 780 nm available upon request*
peak power	3 W at 577 nm	2 W at 532, 642, or 780 nm
rise time constant	12.4 $\mu$ s	
fall time constant	5.1 $\mu$ s	
focal length	300 mm on 300 kV TEMs 250 mm on 200 kV TEMs	
focus size (FWHM)	<40 $\mu$ m on 300 kV TEMs <33 $\mu$ m on 200 kV TEMs	

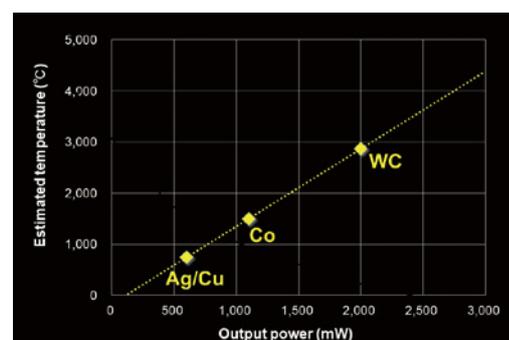
\* Chosen at the time of a purchase order.



Laser intensity profile on a specimen



A 577nm laser melted Tungsten Carbide (WC) at 2000 mW



Estimated temperature as a function of output power of the laser

## Applicable model: JEM-ARM300F2, NEOARM\*1, JEM-F200, JEM-2100F\*2, JEM-2100Plus\*2

\*1 Luminary™ Micro is available only when a probe Cs corrector is configured.

\*2 Luminary™ Micro is not available if a goniometer cover is configured.

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Specifications subject to change without notice.

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Local office

