A new scale in the technology of polycapillary optics

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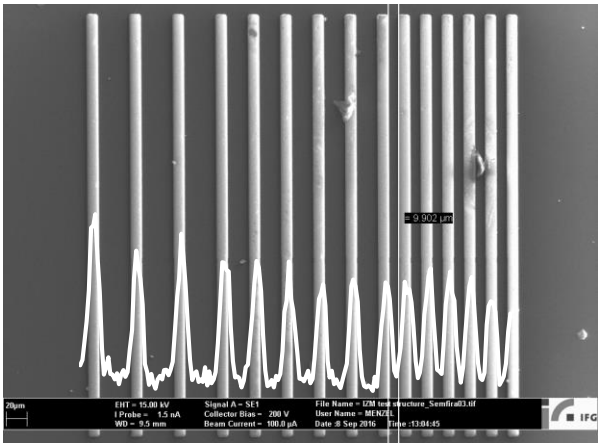
The development in capillary optics is directed to a further decrease of focal spot sizes and an increase of brilliance. Such parameters can be realised if corresponding high brilliant microfocus sources are available and a high quality of the capillary optics is guaranteed. The best combination of sources and optics for high-bright 5 µm spot is discussed. An important task is the realisation of a small focal spot. The production of 10 µm spot size optics has been standardized in the last years. Now the development of the technology to produce polycapillary optics made it possible to reach spot sizes of about 5 µm in a high energy interval. These 5 µm optics can be used for point to point focusing laboratory application and as parallel beam to point focusing half lenses in synchrotron applications. Structures like Sn-stripes or Sn-dots of 10 µm magnitude can be resolved with 5 µm capillary optics completely. Especially the well-known Sn-star with the smallest distance at 4 µm is shown to be resolvable.