



DIGILENS

From Extended Reality to Augmented Life



SRG+

Slides originally presented by

Dr. Bernard Kress

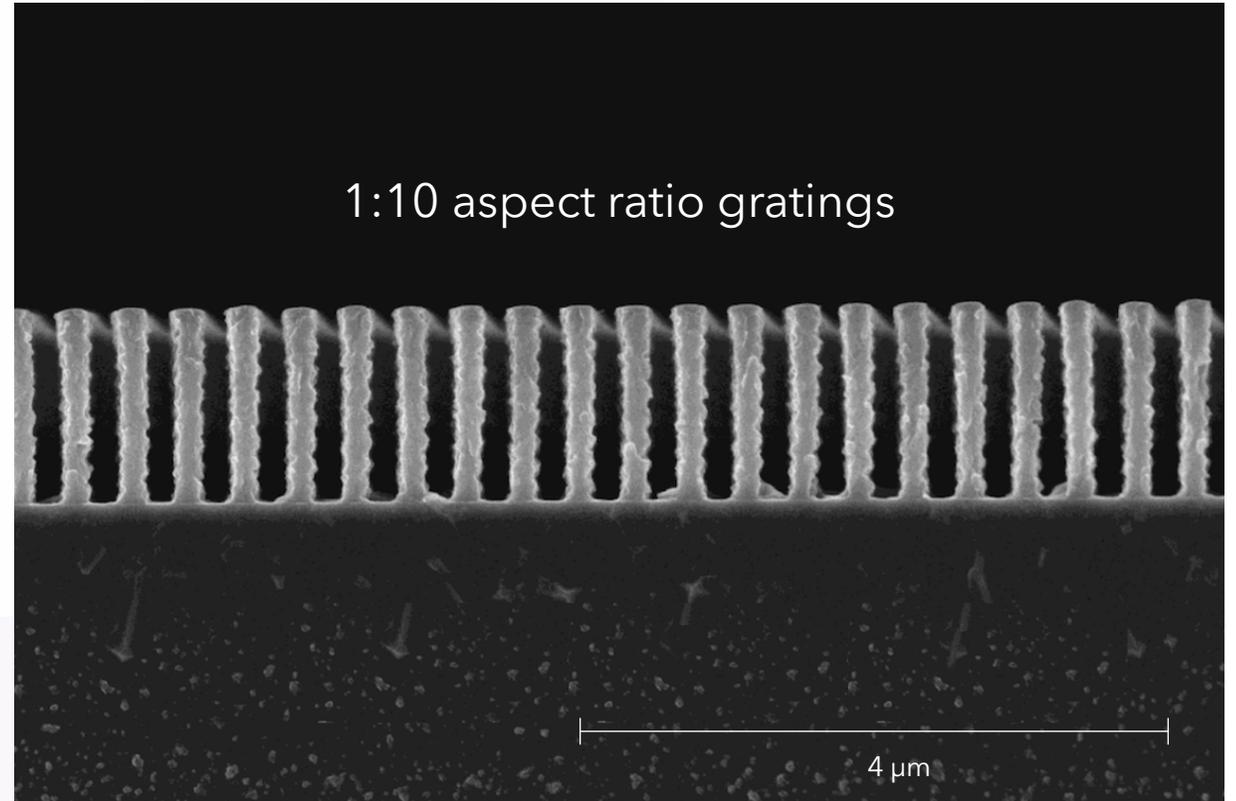
President

SPIE



Very high aspect ratio gratings can be obtained without any residual layer (RL)

Nanostructures after dry development process
Dry development is here isotropic oxygen ashing, not costly anisotropic RIE etching





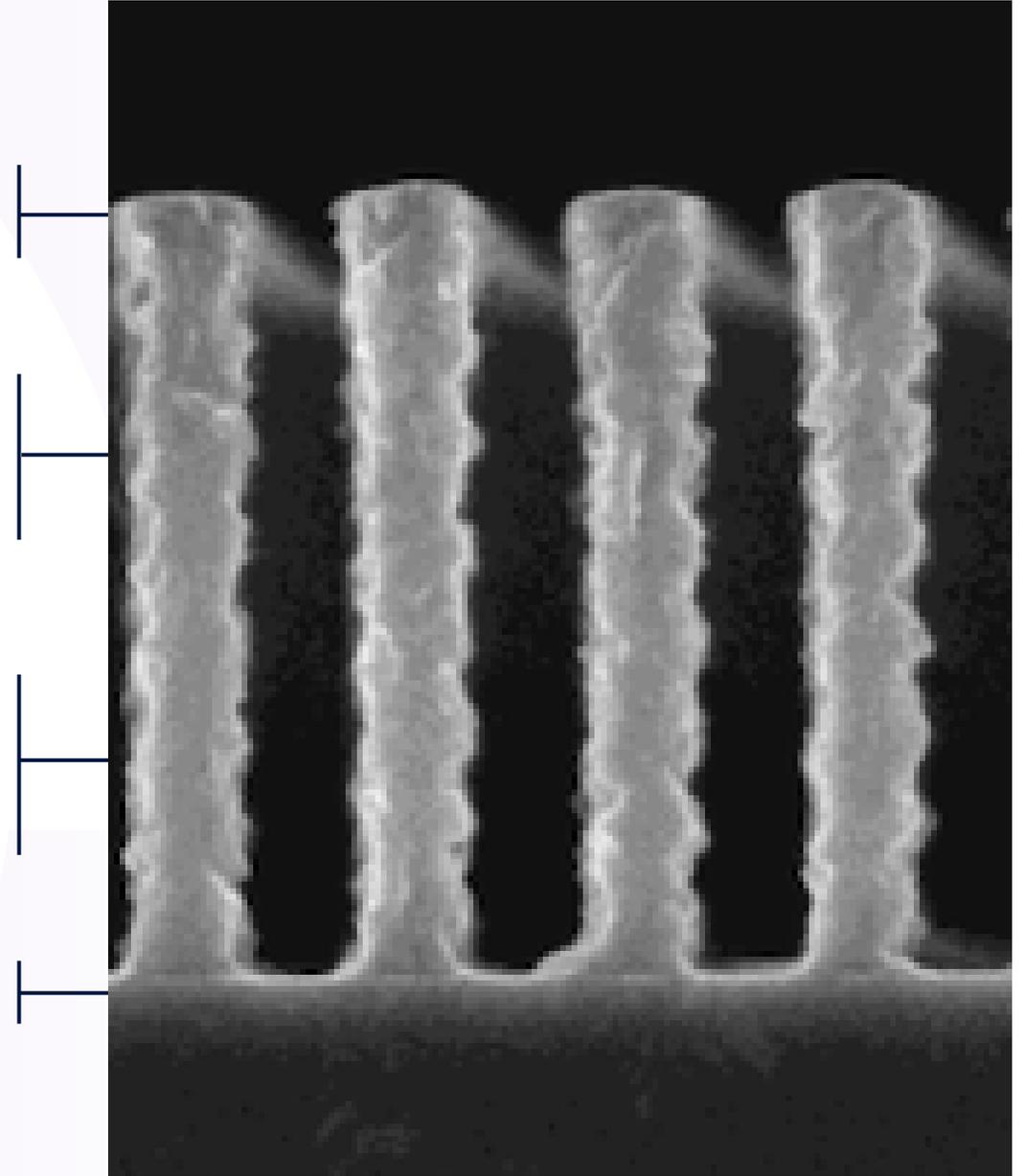
A closer look at top down gratings...

Top duty cycle same as bottom duty cycle

Grating dimensional uniformity secured over entire grating fins

Surface roughness not resulting in blue haze or scatter as size is smaller than 10nm

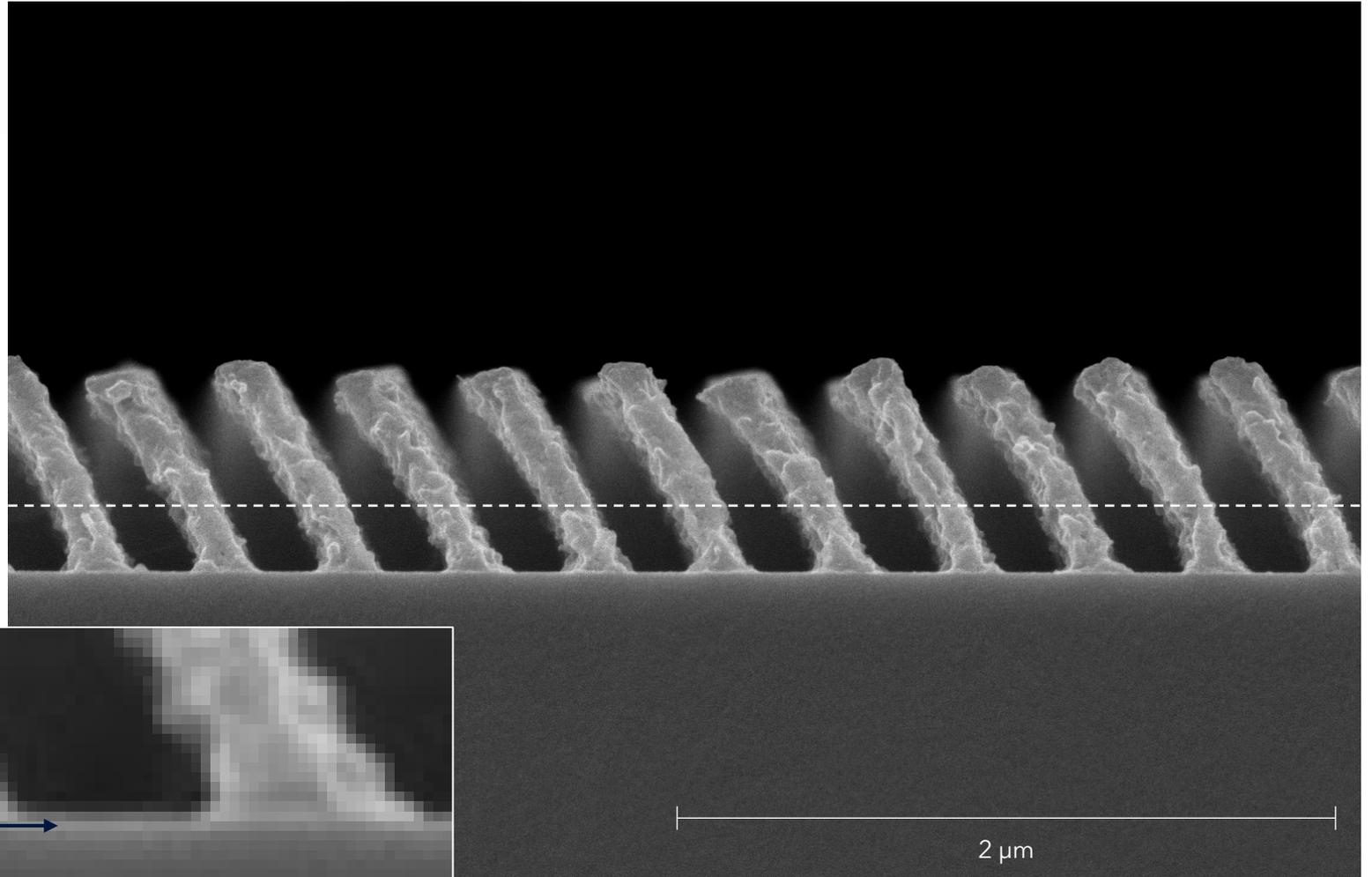
Zero RLT



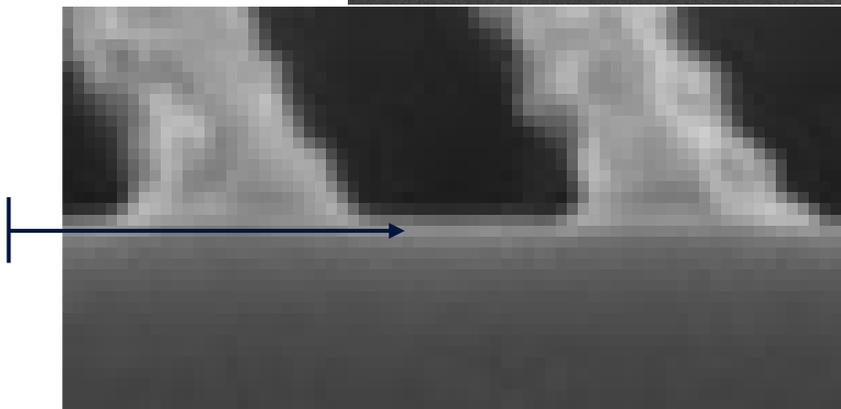


High aspect ratio
slanted structures
(dry process, low
cost, ashing, no RLT)

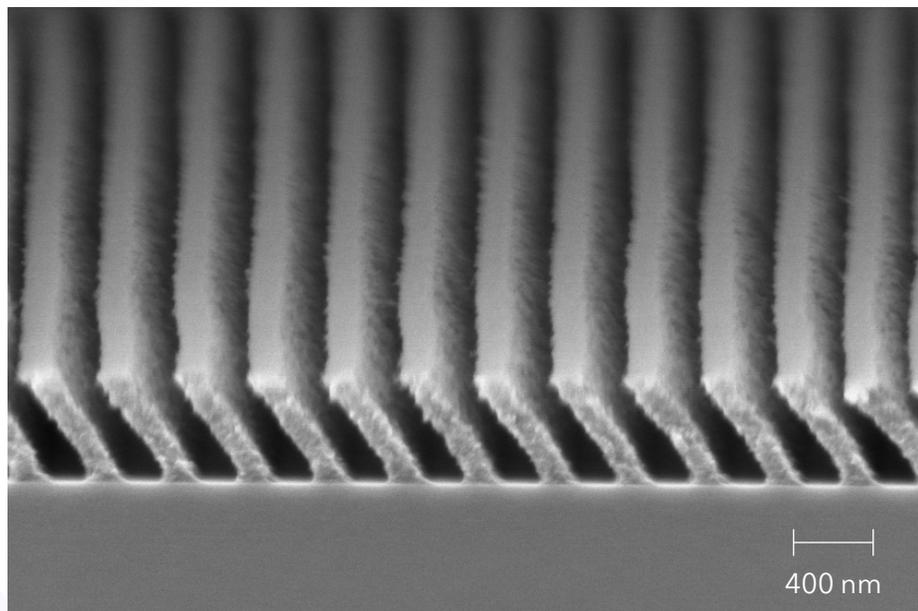
Typical depth with NIL



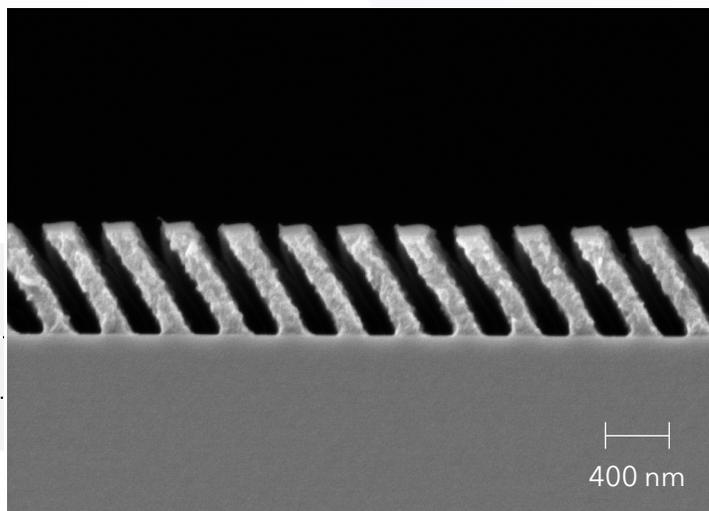
Zero residual layer



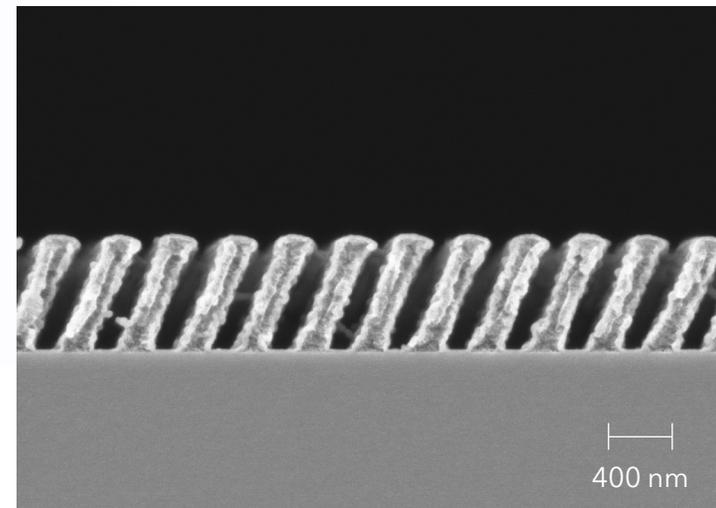
ALD coating on dry developed low index resin SRGs



no ALD, only resin



ALD applied



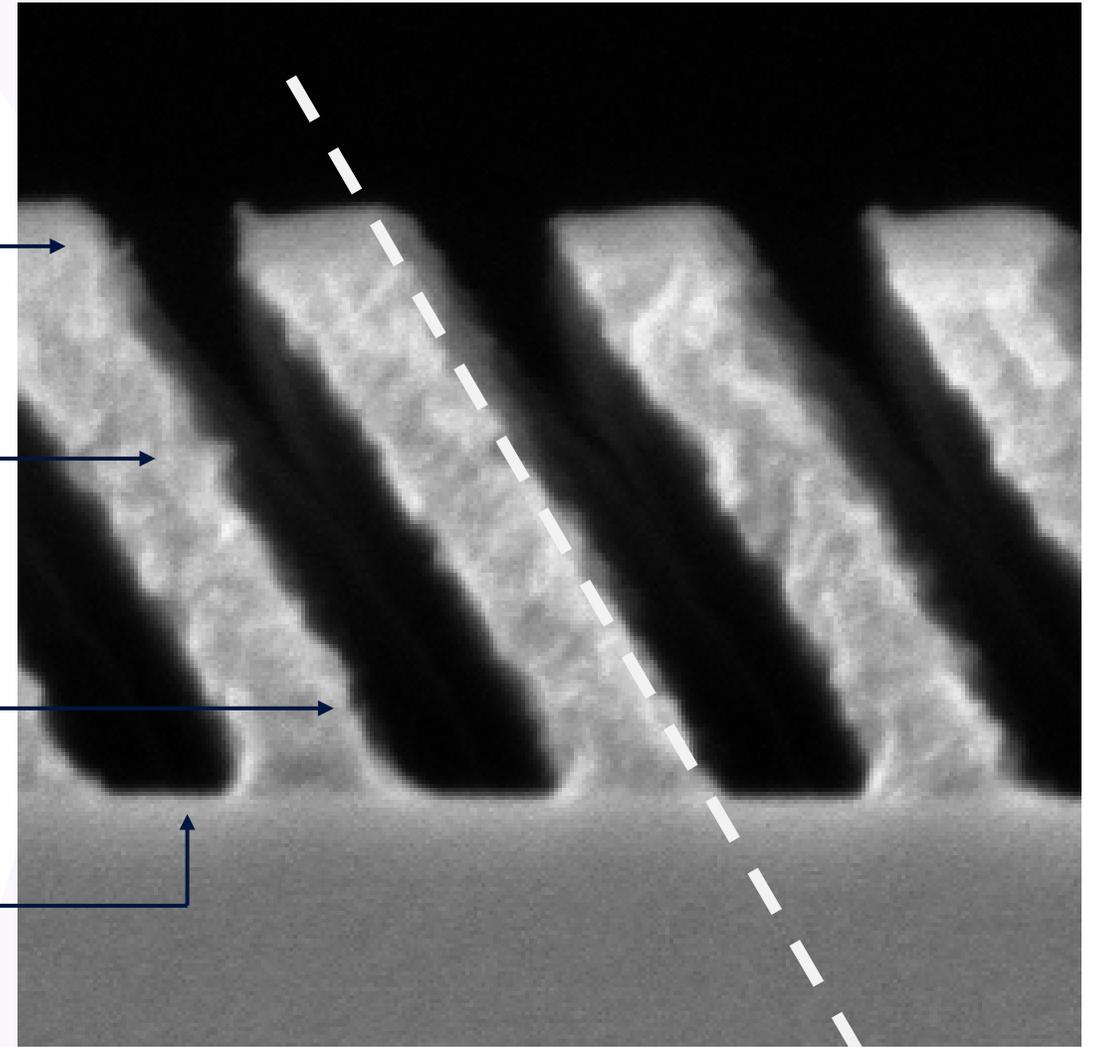
A closer look at slanted gratings...

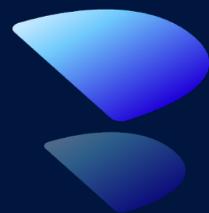
Top duty cycle same as bottom duty cycle

Grating dimensional uniformity secured over entire grating fins

Surface roughness not resulting in blue haze or scatter as size is smaller than 10nm

Zero RLT





DIGILENS

Extending Reality. Augmenting Life.