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## Near-field optics

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3. Near-field optics

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3.3 Photon scanning tunneling microscopy

3.4 Scanning near-field optical microscopy : Methodology

3.4.1 Probe concepts and fabrication

3.4.2 Surface distance control

3.4.3 Optical characterization

3.4.4 Artifacts

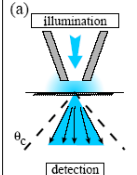
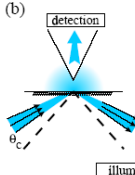
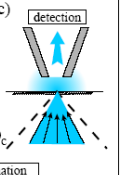
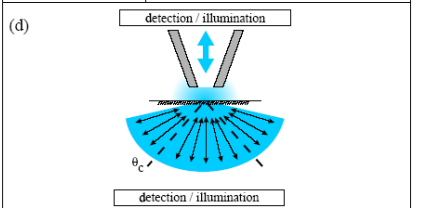
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## Transmission Setups

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illumination mode	collection mode	
(a) 	(b) 	(c) 
(d) 		

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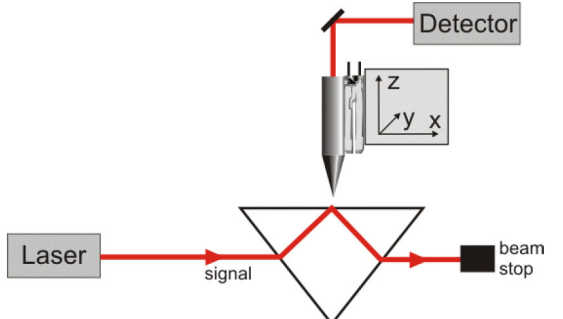
B. Hecht, Dissertation (1996)

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## „Photon-Tunneling“-Microscopy

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PSTM = *Photon Scanning Tunneling Microscopy*  
 STOM = *Scanning Tunneling Optical Microscopy*




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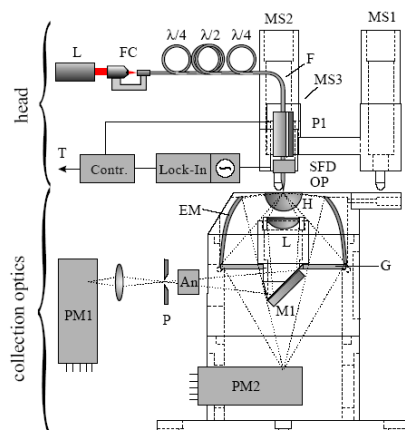
B. Hecht, Nanooptics

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## PSTM

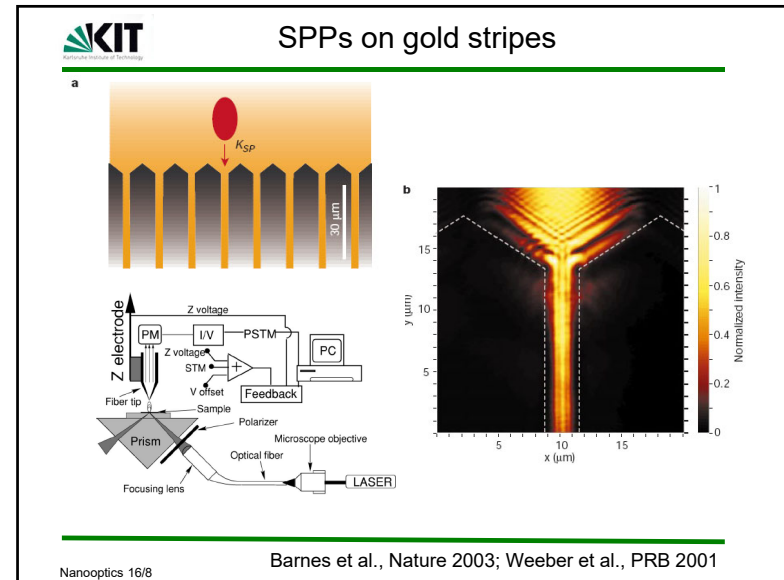
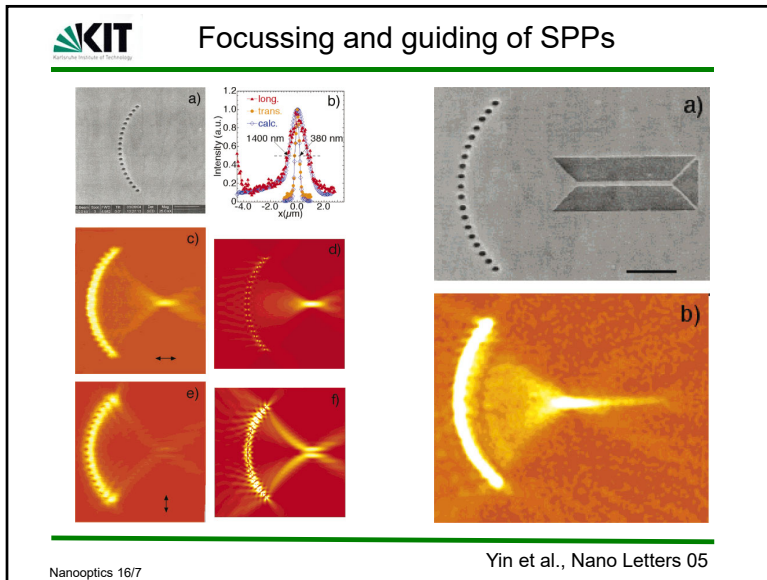
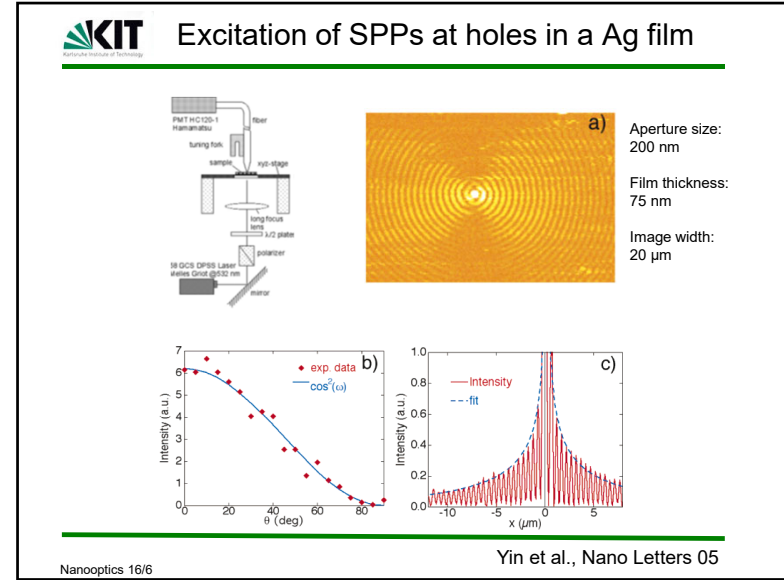
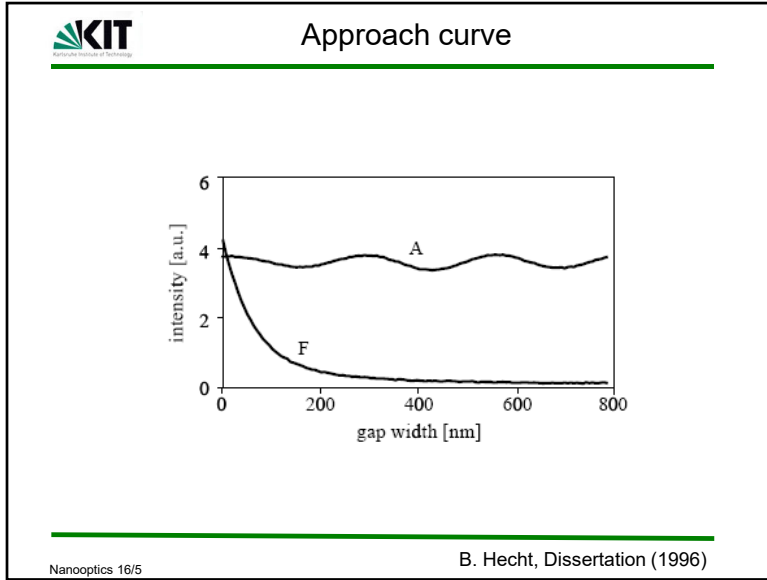
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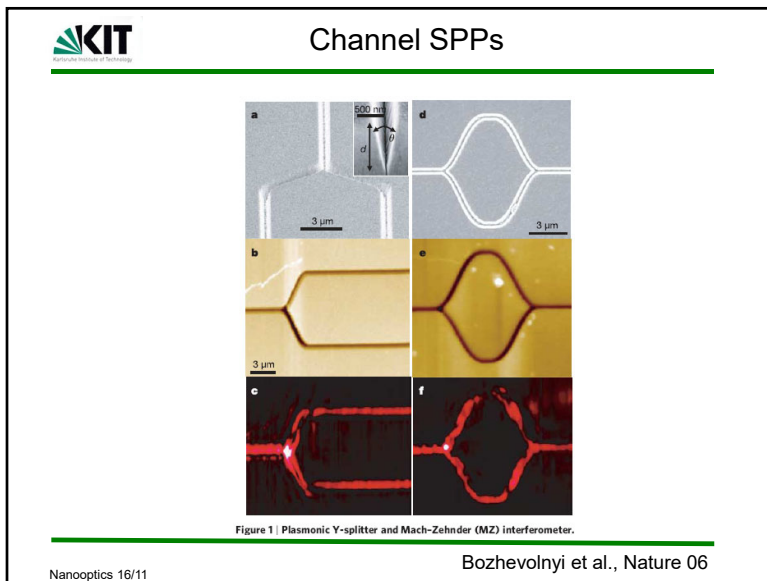
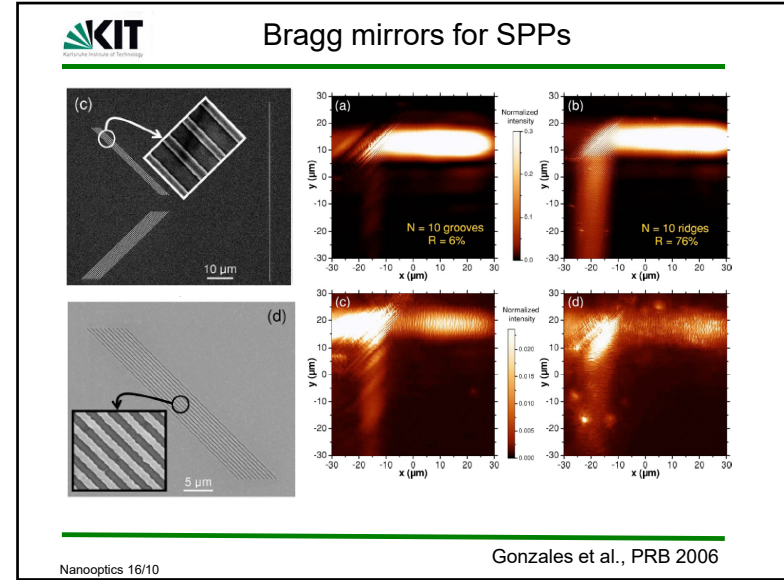
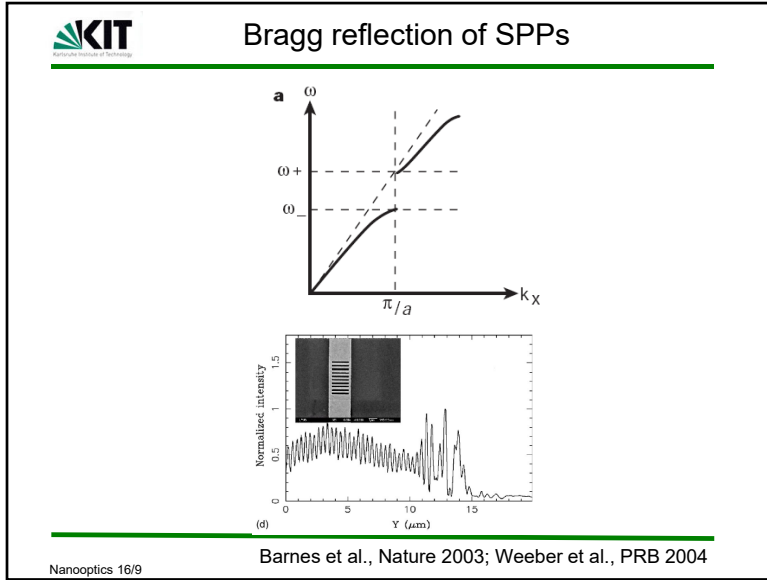



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B. Hecht, Dissertation (1996)

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**KIT** Preparation: Thermal Pulling of Fibers

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**KIT** Fiber tips

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Valaskovic et al., AO (1995)

**KIT** Coating

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Betzig et al. (1991); Hecht et al. (2000)