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List of publications

This thesis is based on the following publications:

- *Angle-resolved cathodoluminescence spectroscopy*, T. Coenen, E. J. R. Vesseur, and A. Polman, Appl. Phys. Lett. **99**, 143103 (2011). **(Chapter 3)**
- *Directional emission from plasmonic Yagi-Uda antennas probed by angle-resolved cathodoluminescence*, T. Coenen, E. J. R. Vesseur, A. Polman, and A. F. Koenderink, Nano Lett. **11**, 3779-3784 (2011). **(Chapter 4)**
- *Deep-subwavelength spatial characterization of angular emission from single-crystal Au plasmonic ridge nanoantennas*, T. Coenen, E. J. R. Vesseur, and A. Polman, ACS Nano **6**, 1742-1750 (2012). **(Chapter 5)**
- *Polarization-sensitive cathodoluminescence Fourier microscopy*, T. Coenen and A. Polman, Opt. Express **20**, 18679-18691 (2012). **(Chapter 6)**
- *The planar parabolic antenna*, D. T. Schoen, T. Coenen, F. J. García de Abajo, M. L. Brongersma, and A. Polman, Nano Lett. **13**, 188-193 (2013). **(Chapter 7)**
- *Directional emission from a single plasmonic scatterer*, T. Coenen, F. Bernal Arango, A. F. Koenderink, and A. Polman, Nat. Commun. **5**, 3250 (2014). **(Chapter 8)**
- *Optical properties of individual plasmonic holes probed with local electron beam excitation*, T. Coenen and A. Polman, in preparation. **(Chapter 9)**
- *Variable modal excitation efficiency in plasmonic dolmens through nanoscale electron beam positioning*, T. Coenen, D. T. Schoen, B. J. M. Brenny, S. R. K. Rodriguez, S. Mann, A. Polman, and M. L. Brongersma, in preparation. **(Chapter 10)**
- *Deep-subwavelength imaging of the modal dispersion of light*, R. Sapienza, T. Coenen, J. Renger, M. Kuttge, N. F. van Hulst and A. Polman, Nat. Mater. **11**, 781-787 (2012). **(Chapter 11)**
- *Resonant Mie modes of single silicon nanocavities excited by electron irradiation*, T. Coenen*, J. van de Groep*, and A. Polman, ACS Nano **7**, 1689-1698 (2013). (*equal author contribution) **(Chapter 12)**

Patent application:

- *Generation of a single guided excitation in a waveguide*, A. Polman, E. J. R. Vesseur, T. Coenen, and F. J. García de Abajo, European Patent Application 2012042057 (2012).

Other publications by the author:

- *Imaging the hidden modes of ultrathin plasmonic strip antennas by cathodoluminescence*, E. S. Barnard, T. Coenen, E. J. R. Vesseur, A. Polman, and M. L. Brongersma, Nano Lett. **11**, 4265-4269 (2011).
- *Plasmonic light trapping in thin-film Si solar cells*, T. Coenen, M. Frimmer, A. Polman, and A. F. Koenderink, Ned. Tijdschrift v. Natuurkunde (Journal of the Dutch Physical Society) **78**, 62-66 (2011).
- *Signature of a Fano-resonance in a plasmonic meta-molecule's local density of optical states*, M. Frimmer, T. Coenen, and A. F. Koenderink, Phys. Rev. Lett. **108**, 077404 (2012).
- *Plasmonic excitation and manipulation with an electron beam*, E. J. R. Vesseur, J. Aizpurua, T. Coenen, A. Reyes-Coronado, P. E. Batson, and A. Polman, MRS Bulletin **37**, 752-760 (2012).
- *Dispersive ground plane core-shell type optical monopole antennas fabricated with electron beam induced deposition*, H. Acar, T. Coenen, A. Polman, and L. Kuipers, ACS Nano **6**, 8226-8232 (2012).
- *Experimental verification of n = 0 structures for visible light*, E. J. R. Vesseur, T. Coenen, H. Caglayan, N. Engheta, and A. Polman, Phys. Rev. Lett. **110**, 013902 (2013).
- *Underpinning hybridization intuition for complex antennas by magnetoelectric quadrupolar polarizability retrieval*, F. Bernal Arango, T. Coenen, and A. F. Koenderink, in preparation.
- *Nanoscale optical tomography with cathodoluminescence spectroscopy*, A. C. Atre, B. J. M. Brenny, T. Coenen, A. Polman, and J. A. Dionne, in preparation.
- *Quantifying coherent and incoherent cathodoluminescence processes in semiconductors and metals*, B. J. M. Brenny, T. Coenen, and A. Polman, in preparation.
- *Investigation of resonant modes in plasmonic patch antennas*, A. Mohtashami, T. Coenen, A. Polman, and A. F. Koenderink, in preparation.