Two-dimensional optics : diffraction and dispersion of surface plasmons

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Curriculum Vitæ

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1981	Born in Raleigh, North Carolina, United States
1993–1994	Secondary education, Sherwood Githens Middle School, Durham, North Carolina, United States
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List of Publications

- Chimento, P. F., Jurna, M., Bouwmans, H. S. P., Garbacik, E. T., Hartsuiker, L., Otto, C., Herek, J. L., & Offerhaus, H. L. (2009). High-resolution narrowband CARS spectroscopy in the spectral fingerprint region. *Journal of Raman Spectroscopy, 40,* 1229–1233.
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- Chimento, P. F., 't Hooft, G. W., & Eliel, E. R. (2010). Plasmonic tomography of optical vortices. *Optics Letters, 35,* 3775–3777.
- Chimento, P. F., Kuzmin, N. V., Bosman, J., Alkemade, P. F. A., 't Hooft, G. W., & Eliel, E. R. (2011). A subwavelength slit as a quarter-wave retarder. *Optics Express, 19,* 24219–24227.
- Chimento, P. F., Alkemade, P. F. A., 't Hooft, G. W., & Eliel, E. R. (2012). Optical angular momentum conversion in a nanoslit. *Optics Letters, 37,* 4946–4948.
- Chimento, P. F., 't Hooft, G. W., & Eliel, E. R. (2013). When the dip doesn't tell the whole story: interpreting the surface plasmon resonance in lossy metals. Submitted to *Optics Express*.
- Chimento, P. F., 't Hooft, G. W., & Eliel, E. R. Anomalous dispersion of surface plasmons. In preparation.
- Chimento, P. F., 't Hooft, G. W., & Eliel, E. R. Enhancing the anomalous surface plasmon dispersion in aluminum. In preparation.

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Philippe Lalanne, professor at the Institut d'Optique, CNRS, was willing to share the Gaussian quadrature code from their paper[35] which I adapted for chapter 2. Speaking of sharing computer code, I relied heavily on open source software almost from the start of this research. NumPy and SciPy[36] did all the number crunching. I made all the graphs in this book with Matplotlib[37] and the diagrams with Inkscape. I used DataThief III[38] to digitize printed specs of anti-reflection coatings.

[35] Lalanne et al., 2006.

[36] Jones, Oliphant, and Peterson, 2001.

[37] Hunter, 2007.

[38] Tummers, 2006.