

**DATE: 16 May 2022**

**TIME: 11.00**

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**Short BIO:** Christian Wolff studied physics at the Karlsruhe Institute of Technology (Germany) and completed his PhD on the theory of 3d photonic crystals. During his postdoc stays in Berlin and Sydney he worked on the development of numerical methods for nonlinear and nonlocal electromagnetic problems and on the theory of opto-mechanical interactions in waveguides. He has been an assistant professor for Computational Physics at the University of Southern Denmark in Odense and works on problems at the intersection of electromagnetic theory, solid state physics and computational physics.

## Cathodoluminescence of nano-scale photonic systems

Christian Wolff

Center for Nano Optics at the University of Southern Denmark, Odense

**ABSTRACT:** Cathodoluminescence is the light emitted when the beam of an electron microscope hits a target. This can be used to gather information e.g. about the material composition of extended samples. In contrast, we studied the information that the signal contains about the electromagnetic mode structure of nano-particles with and without color centers as well as the quantum correlations of the emitted radiation. We find surprising deviations from the naively expected Mie resonances of spheres. Furthermore, we find very pronounced and variable second order correlation function signatures that suggest tunable strongly non-classical light sources.



Seminars @ NANOTECH

info: [francesco.todisco@nanotec.cnr.it](mailto:francesco.todisco@nanotec.cnr.it)