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Where photons meet phonons

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Curriculum vitae

Frank Buters was born on the 20th of October 1989 in Velsbroek. He graduated cum laude from the Gymnasium Felisenum high school in 2008 with a specialization in natural sciences and went to study physics at the Vrije Universiteit Amsterdam. Frank obtained his BSc cum laude. His final research project involved photocatalysis of NaTaO_3 crystals in the group of Rinke Wijngaarden. He went on to do an MSc at the Vrije Universiteit Amsterdam with a focus on experimental condensed matter physics. In 2012 he was elected to attend the Lindau Nobel meetings. He performed his final research project on the optical properties of SiGe nanocrystals in the group of Tom Gregorkiewicz at the University of Amsterdam and obtained his MSc cum laude in 2013. He then moved to Leiden to work on the optomechanics experiment in the group of Dirk Bouwmeester. As of September 2017 Frank is working as a consultant at RiskQuest in Amsterdam.

List of publications

1. **F.M. Buters**, K. Heeck, F. Luna, M.J. Weaver, H. Eerkens, S. de Man and D. Bouwmeester, *Vibration free platform for cavity optomechanics*, in preparation (Chapter 10 of this thesis)
2. M.J. Weaver, **F.M. Buters**, J. Luna, H. Eerkens, K. Heeck, S. de Man and D. Bouwmeester, *Coherent optomechanical state transfer between dissimilar mechanical modes*, accepted for publication in Nature Communications (Chapter 11 of this thesis)
3. **F.M. Buters**, F. Luna, M. Weaver, H.J. Eerkens, K. Heeck, S. de Man, and D. Bouwmeester, *Optomechanically induced transparency with a trampoline resonator*, Optics Express 25, 12935 (2017) (Chapter 4 of this thesis)
4. **F.M. Buters**, K. Heeck, H. Eerkens, M. J. Weaver, F. Luna, S. de Man, and D. Bouwmeester, *High-nested resonator in an actively stabilized optomechanical cavity*, Appl. Phys. Lett. 110, 104104 (2017) (Chapter 9 of this thesis)
5. **F.M. Buters**, M.J. Weaver, H.J. Eerkens, K. Heeck, S. de Man, and D. Bouwmeester, *Optomechanics with a polarization non-degenerate cavity*, Phys. Rev. A 94, 063813 (2016) (Chapter 6 of this thesis)
6. M.J. Weaver, B. Pepper, F. Luna, **F.M. Buters**, H.J. Eerkens, G. Welker, B. Percock, K. Heeck, S. de Man, and D. Bouwmeester, *Nested trampoline resonators for optomechanics*, Appl. Phys. Lett. 108, 033501 (2016)
7. **F.M. Buters**, H. J. Eerkens, K. Heeck, M.J. Weaver, B. Pepper, S. de Man, and D. Bouwmeester, *Experimental exploration of the optomechanical attractor diagram and its dynamics*, Phys. Rev. A 92, 013811 (2015) (Chapter 3 of this thesis)
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9. **F.M. Buters**, H. J. Eerkens, K. Heeck, M.J. Weaver, B. Pepper, P. Sonin, S. de Man, and D. Bouwmeester, *Large parametric amplification in an optomechanical system*, Physica Scripta T165, 014003 (2015) (Chapter 3 of this thesis)
 10. S. Saeed, **F.M. Buters**, K. Dohnalova, L. Wosinski, and T. Gregorkiewicz, *Structural and optical characterization of self-assembled Ge nanocrystal layers grown by plasma-enhanced chemical vapor deposition*, Nanotechnology 25, 405705 (2014)