

Please find below a selection of 12 references for highlighting:

- 1) Telle, H. R. et al. Carrier-Envelope Offset Phase Control: A Novel Concept for Absolute Optical Frequency Measurement and Ultrashort Pulse Generation. Applied Physics B 69, 327–332. issn : 0946-2171, 1432-0649 (1999).
This paper first introduced the seminal concept of carrier-envelope phase stabilization via self-referencing, the key technological concept that enabled phase stabilization of mode-locked lasers and the realization of optical frequency combs.
- 2) Apolonski, A. et al. Controlling the Phase Evolution of Few-Cycle Light Pulses. Physical Review Letters 85, 740–743 (2000).
- 3) Jones, D. J. et al. Carrier-Envelope Phase Control of Femtosecond Mode-Locked Lasers and Direct Optical Frequency Synthesis. Science 288, 635–639 (2000).

First experimental demonstrations of full phase stabilization of Ti:sapphire modelocked lasers for realization of the first optical frequency combs.
- 4) Udem, T., Holzwarth, R. & Hänsch, T. W., “Optical Frequency Metrology.” Nature 416, 233–237 (2002)
Seminal review article that provides both a historical perspective of precision optical metrology and clearly explains the operating principle of optical frequency combs and their role in the development of optical atomic clocks .
- 5) Gohle, C. et al. A Frequency Comb in the Extreme Ultraviolet. Nature 436, 234–237 (2005).
Seminal publication demonstrating high harmonic generation of ultrashort optical pulses in Xenon for extension of frequency comb synthesis to the XUV.
- 6) Rosenband, T. et al., Frequency Ratio of Al⁺ and Hg⁺ Single-Ion Optical Clocks; Metrology at the 17th Decimal Place. Science 319, 1808–1812 (2008)
First fundamental physics test via a frequency comb enabled optical clock comparison, to constrain possible time variations of the fine structure constant.
- 7) Fortier, T. M. et al. Generation of Ultrastable Microwaves via Optical Frequency Division. Nature Photon. 5 (2011).

Seminal publication demonstrating ultra-low-noise microwave generation via optical to microwave division using an optical frequency comb.
- 8) Giorgetta, F. R. et al. Optical Two-Way Time and Frequency Transfer over Free Space. Nature Photonics 7, 434–438 (2013).
First demonstration using the optical pulses from fully-stabilized Er: fiber based optical frequency combs for time/frequency transfer over free-space.
- 9) Coddington, I., Newbury, N. & Swann, W. Dual-Comb Spectroscopy. Optica 3, 414–426 (2016).
A detailed review article summarizing the principle of dual comb spectroscopy, as well as frequency comb sources and their application to dual-comb spectroscopy.

- 10) McCracken, R. A., Charsley, J. M. & Reid, D. T. A Decade of Astrocombs: Recent Advances in Frequency Combs for Astronomy [Invited]. *Optics Express* 25, 15058–15078 (2017)
Review article that provides a comprehensive and accessible overview of the application of optical frequency combs for calibration of astronomical spectrographs, and their application to exo-planet searches.
- 11) Jang, Y.-S. & Kim, S.-W. Distance Measurements Using Mode-Locked Lasers: A Review. *Nanomanufacturing and Metrology* 1, 131–147 (2018)
Review article outlining the application and recent advances of optical frequency combs to precision distance measurement, multi-wavelength interferometry and optical cross-correlation.
- 12) Gaeta, A. L., Lipson, M. & Kippenberg, T. J. Photonic-Chip-Based Frequency Combs. *Nature Photonics* 13, 158 (2019).
Review of state of the art on chip-based nonlinear photonics, and their specific application to micro-resonator frequency combs.