${\bf Thesis Title}$

by

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Other Degrees

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Cole, Daniel C. (Ph.D., Physics)

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Thesis directed by Dr. Scott A. Diddams

Nunc sed pede. Praesent vitae lectus. Praesent neque justo, vehicula eget, interdum id, facilisis et, nibh. Phasellus at purus et libero lacinia dictum. Fusce aliquet. Nulla eu ante placerat leo semper dictum. Mauris metus. Curabitur lobortis. Curabitur sollicitudin hendrerit nunc. Donec ultrices lacus id ipsum.

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- \bullet Acknowledgement line 2

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List of Abbreviations

HRR High repetition rate

DC Direct current

RF Radio frequency

IM Intensity modulation

PM Phase modulation

HNLF Highly-nonlinear fiber

SMF Single-mode fiber

SLM Spatial light modulator

FWHM Full-width at half-maximum

SPM Self-phase modulation

DRO Dielectric-resonator oscillator

SWAP Size, weight, and power

Chapter 1

Microresonators

References

[1] D. T. Spencer, T. Drake, T. C. Briles, J. Stone, L. C. Sinclair, C. Fredrick, Q. Li, D. Westly, B. R. Ilic, A. Bluestone, N. Volet, T. Komljenovic, L. Chang, S. H. Lee, D. Y. Oh, T. J. Kippenberg, E. Norberg, L. Theogarajan, M.-g. Suh, K. Y. Yang, H. P. Martin, K. Vahala, N. R. Newbury, K. Srinivasan, J. E. Bowers, S. A. Diddams, and S. B. Papp. An optical-frequency synthesizer using integrated photonics. *Nature*, 2018. DOI: 10.1038/s41586-018-0065-7.