

PUBLICATIONS  
MARK CRONIN-GOLOMB  
3/22/16

Submitted

“Photo-induced structural modifications in silk gels containing azobenzene side groups”,  
M.J. Landry, M.B. Applegate, F.G. Omenetto, D.L. Kaplan, M. Cronin-Golomb, and C.J. Barrett,  
submitted to Advanced Materials.

Invited Papers

1. "Theory and applications of four-wave mixing in photorefractive media", M. Cronin-Golomb, B. Fischer, J.O. White and A. Yariv, IEEE Journ. of Quantum Electron. QE-20, 12 (1984)
2. "Oscillation with photorefractive gain", S.K. Kwong,  
M. Cronin-Golomb and A. Yariv, IEEE Journ. Quantum Electron. QE-22, 1508 (1986)
3. "Principles and applications of optical phase conjugation in photorefractive materials", K. Kyuma, S.K. Kwong, M. Cronin-Golomb and A. Yariv, Optoelectronics Dev. & Tech. 2, 1 (1987)

Invited Presentations

1. "Theory and experiments of four wave mixing and optical phase conjugation in photorefractive materials", M. Cronin-Golomb, B. Fischer, J.O. White and A. Yariv, J. Opt. Soc. Am. 71, 1563 (1981)  
Invited paper presented at 1981 Annual Meeting of the Optical Society of America.
2. "Theory and Applications of Self-Pumped Phase Conjugation", M. Cronin-Golomb and A. Yariv,  
Gordon Research Conference on Nonlinear Optics and Lasers, 1983
3. "New applications in photorefractive phase conjugation",  
M. Cronin-Golomb and A. Yariv, Invited Paper, Proc. SOQUE., Proc. International Conference on  
Lasers'85, pp27-30 (1986)
4. "Phase conjugate resonators with photorefractive crystals", M. Cronin-Golomb, International School of  
Materials Science and Technology, Ettore Majorana Centre for Scientific Culture, Erice, Italy 1986
5. "Self-pumped phase conjugation in photorefractive materials", M. Cronin-Golomb, Mini-Symposium on  
Non-Linear Optical Phase Conjugation, Rank Prize Funds, Broadway, UK (1989)
6. "Nonlinear optics and phase conjugation in photorefractive materials" M. Cronin-Golomb, Eighth  
American Conference on Crystal Growth, Vail (1990)
7. "Photorefractive nonlinear optics", Summer School on Nonlinear Optics, Prague, (1991)
8. "Coherence, femtosecond pulses, and the photorefractive effect", Second Technion Symposium on  
Optoelectronics, Technion, Haifa, Israel (1994)
9. "Applications of the photorefractive beam propagation method", Mini-Symposium on Coherent Image  
Amplification, Rank Prize Funds, Grasmere, UK (1994)
10. "Synchrotron X-ray topography of photorefractive materials", Japan-US Workshop on Functional  
Fronts in Advanced Ceramics, Tsukuba, Japan (1994)
11. "Photorefractive nonlinear optics: a perspective" International Conference on Optoelectronics,  
Dehradun, India (1998)

12. "Use of tethering for axial confinement in optical tweezers" M. Cronin-Golomb, SPIE Annual Meeting, Denver, Colorado (2004)

13. "Optical Tweezers and Optofluidics", Optofluidics: Emerging Applications and Technologies, LEOS Summer Topical Meeting, Quebec, Canada (2006)

14. "Applications of Optical Tweezers to Optofluidics" SPIE Annual Meeting, San Diego, California (2006)

#### Book Chapters

1. "Optical oscillators with photorefractive gain", M. Cronin-Golomb, S.K. Kwong and A. Yariv, "Electrooptic and photorefractive materials 1986", ed. P. Gunter (Springer Verlag, 1987)
2. "Wave Propagation in Photorefractive Media", J.O. White, S.K. Kwong, M. Cronin-Golomb, B. Fischer and A. Yariv, "Photorefractive materials and their applications", ed P. Gunter and J.-P. Huignard (Springer Verlag 1989)
3. "Self-Pumped Phase Conjugate Mirrors and Other Oscillators", M. Cronin-Golomb, "Phase Conjugation", ed D. Proch and M. Gower (Springer Verlag 1994)
4. "Photorefractive Materials and Devices", M. Klein and M. Cronin-Golomb, "Handbook of Optics", ed M. Bass (McGraw Hill, 1994)
5. "Nonlinear optics basics:Photorefraction", M. Cronin-Golomb and B. Kippelen, "Encyclopedia of Modern Optics" (Elsevier, December 2004)

#### Reports

1. "Soviet Optical Processing Research", A. VanderLugt, A.E. Attard, M. Cronin-Golomb, R.L. Hartman, J.N. Lee, G.M. Morris, W.T. Rhodes, (Science Applications International Corporation, McLean, VA 1991)

#### Refereed Papers

1. "Diffraction gratings and solar selective thin film absorbers: an experimental study", M. Golomb, Opt. Commun. 27, 177 (1978)
2. "Amplified reflection, transmission, and oscillation in real time holography", B. Fischer, M. Cronin-Golomb, J.O. White and A. Yariv, Opt. Lett. 6, 519 (1981)
3. "Coherent oscillation by self-induced gratings in the photorefractive crystal BaTiO<sub>3</sub>", J.O. White, M. Cronin-Golomb, B. Fischer and A. Yariv, Appl. Phys. Lett. 40, 450 (1982)
4. "Amplifying continuous wave phase conjugate mirror with strontium barium niobate ", B. Fischer, M. Cronin-Golomb, J.O. White, A. Yariv and R. Neurgaonkar, Appl. Phys. Lett. 40, 863 (1982)
5. "Exact solution of a nonlinear model of four-wave mixing and phase conjugation", M. Cronin-Golomb, B. Fischer, J.O. White and A. Yariv, Opt. Lett. 7, 313 (1982)
6. "Real time phase conjugate window for one way imaging through an optical distortion", B. Fischer, M. Cronin-Golomb, J.O. White, A. Yariv, Appl. Phys. Lett. 41, 141 (1982)
7. "Laser with dynamic holographic intracavity distortion correction capability", M. Cronin-Golomb, B. Fischer, J. Nilsen, J.O. White and A. Yariv, Appl. Phys. Lett. 41, 219 (1982)

8. "Passive (self-pumped) phase conjugate mirror: Theoretical and experimental investigation", M. Cronin-Golomb, B. Fischer, J.O. White and A. Yariv, Appl. Phys. Lett. 41, 689 (1982)
9. "Passive phase conjugate mirror based on self-induced oscillation in an optical ring cavity", M. Cronin-Golomb, B. Fischer, J.O. White and A. Yariv, Appl. Phys. Lett. 42, 919 (1983)
10. "Multicolor Passive (Self-Pumped) Phase Conjugation", M. Cronin-Golomb, S.K. Kwong and A. Yariv, Appl. Phys. Lett. 44, 727 (1984)
11. "Optical bistability and hysteresis with passive (self-pumped) phase conjugate mirrors", S.K. Kwong M. Cronin-Golomb and A. Yariv, Appl. Phys. Lett. 45, 1016 (1984)
12. "Optical limiters based on the photorefractive effect", M. Cronin-Golomb and A. Yariv., J. Appl. Phys. 57, 4906 (1985)
13. "Non-degenerate optical oscillation in a resonator formed by two phase conjugate mirrors", M. Cronin-Golomb, B. Fischer, S.K. Kwong, J.O. White and A. Yariv, Opt. Lett. 10, 353 (1985)
14. "Experimental studies of phase conjugation with depleted pumps in photorefractive media", S.K. Kwong, Y.H. Chung, M. Cronin-Golomb and A. Yariv, Opt. Lett. 10, 359 (1985)
15. "Canceling beam deflection in an acousto-optic frequency shifter using a self-pumped phase conjugating mirror", M. Cronin-Golomb and D.Z. Anderson, Appl. Phys. Lett. 47, 346 (1985)
16. "Optical path length to frequency converting interferometer using photorefractive oscillation", S.K. Kwong, A. Yariv, M. Cronin-Golomb and I. Ury, Appl. Phys. Lett. 47, 460 (1985)
17. "Infrared photorefractive passive phase conjugation with BaTiO<sub>3</sub> : demonstrations with GaAlAs and 1.09mm Ar<sup>+</sup> lasers", M. Cronin-Golomb, Kam Y. Lau and A. Yariv, Appl. Phys. Lett. 47, 567 (1985)
18. "Vibration resistance, short coherence length operation and mode locked pumping in passive phase conjugate mirrors", M. Cronin-Golomb, J. Paslaski and A. Yariv, Appl. Phys. Lett. 47, 1131 (1985)
19. "The phase of phase conjugation and its effect in the double phase conjugate resonator", S.K. Kwong, A. Yariv, M. Cronin-Golomb and B. Fischer, J. Opt. Soc. Am. A, 3, 157 (1986)
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21. "Plane wave theory of nondegenerate oscillation in the linear photorefractive passive phase conjugate mirror", M. Cronin-Golomb and A. Yariv, Opt. Lett. 11, 242 (1986)
22. "Coherent coupling of diode lasers by phase conjugation", M. Cronin-Golomb and A. Yariv, Appl. Phys. Lett. 48, 1240 (1986)
23. "Self-scanning and self-induced distributed feedback in semiconductor lasers with phase conjugate feedback", M. Cronin-Golomb and A. Yariv, Opt. Lett. 11, 455 (1986)
24. "Narrow linewidth single frequency semiconductor laser with a phase conjugate external cavity mirror", K. Vahala, K. Kyuma, A. Yariv, S.K. Kwong, M. Cronin-Golomb and K.Y. Lau, Appl. Phys. Lett. 49, 1563 (1986)
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32. "Stability analysis and temporal behavior of four wave mixing in photorefractive crystals", W. Krolikowski, K.D. Shaw and M. Cronin-Golomb, *J. Opt. Soc. Am.* B6 1828 (1989).
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