

## Dr. Weining Man

Department of Physics and Astronomy  
San Francisco State University  
1600 Holloway Ave.  
San Francisco, CA 94132

Phone: (415) 338-2731 (office)  
(415) 338-1343 (lab)  
Fax: (415) 338-2178  
Email: weining@sfsu.edu

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### EDUCATION AND EXPERIENCE:

Ph.D. Physics	Princeton University	2005
M.S. Quantum optics	Jilin University	2000
B.S. Physics	Jilin University	1997

### PROFESSIONAL APPOINTMENTS:

San Francisco State University	Assistant Professor	2008-present
New York University, Physics Dept.	Assistant Research Scientist	2007-2008
Princeton University, Chem. Eng. Dept.	Visiting Research Collaborator	2007-2008
	Research Associate	2005-2007
Princeton University, Physics Dept.	Research/Teaching Assistant	2000-2005

### GRANTS AND AWARDS

SFSU, Provost's Research Time Award	2011
National Science Foundation, Major Research Instrumentation Award	2010
Facilitating Research and Creative Activity ORSP Internal Award SFSU	2010
Cottrell College Science Awards, Research Corporation	2009-2011
Kirtland Manley '31 Merit Fellowship, Princeton University	2001-2002
President's Fellowship, Princeton University	2000-2001
First class Master's thesis award, Jilin University, China	2000
Graduated with honor, Physics Department, Jilin University, China	1997

### PROFESSIONAL AFFILIATIONS AND ACTIVITIES:

Member: American Physical Society (APS)  
American Chemistry Society (ACS)  
Referee: Physical Review Letters, Physical Review B,

### PUBLICATIONS, PRESENTATIONS, CREATIVE WORK:

#### Patents

1. Assembly of Quasicrystalline Photonic Heterostructures  
David G. Grier, Yael Roichman, Weining Man, Paul Chaikin & Paul. J. Steinhardt,  
US Patent No. 7981774 (issued July 19, 2011)
2. Quasicrystalline Photonic Heterostructures and Uses Thereof  
Weining Man, Paul Chaikin & Paul. J. Steinhardt, disclosure submitted July 8, 2005  
(Pending)

## Peer-Reviewed Journal Publications:

### To-be published:

1. *Sizeable Isotropic Complete Photonic Band Gap in Hyper-uniform Disordered Photonic Band Gap Material* (to be submitted to NATURE)  
Weining Man, Marian Florescu, Eric Williamson\*, Seyed Hashemizad\*, Devin Liner\*, Salvatore Torquato, Paul Steinhardt, and Paul Chaikin
2. *Observation of self-trapping and enhanced transparency of light in nonlinear nano-suspensions with negative polarizability* (to be submitted to Nature Photonics)  
Weining Man, Ze Zhang\*, Jai Prakash\*, Mike Lau\*, Peng Zhang\*, D. N. Christodoulides, and Zhigang Chen
3. *Experimental study on photonic band diagrams in non-crystalline photonic band gap (PBG) materials*, (in preparation)  
Weining Man, Eric Williamson\*, Polin Yadak\*, Seyed Hashemizad\*, Devin Liner\*, Marian Florescu,
4. *Wave-guiding through Localized Modes in Optically Induced Disordered Photonic Lattices*(in preparation)  
Peigen Ni\*, Peng Zhang\*, Xinyuan Qi\*, Weining Man, Jianke Yang, Zhigang Chen,

### Previously published:

5. L. Corté, S. J. Gerbode, W. Man, D. J. Pine, **PHYS. REV. LETT.** 103 248301 (2009)  
*Self-Organized Criticality in Sheared Suspensions*
6. W. Man and W. B. Russel, **PHYS. REV. LETT.** **100** 198302 (2008)  
*Direct measurements of critical stresses and cracking in thin films of colloid dispersions*
7. W. B. Russel, N. Wu, and W. Man, **LANGMUIR** **24** (5) 1721 (2008)  
*A generalized Hertzian model for the deformation and cracking of close-packed colloidal arrays saturated with liquid*
8. W. Man, M. Megens, P. Steinhardt, P. M. Chaikin, **NATURE** **436** 993 (2005)  
*Measurements of Photonic Gaps in Icosahedral Quasicrystals*
9. W. Man, A. Donev, F. H. Stillinger, M. Sullivan, W. B. Russel, D. Heeger, S. Inati, S. Torquato and P. M. Chaikin, **PHYS. REV. LETT.** **94** 198001 (2005)  
*Experiments on Random Packings of Ellipsoids*
10. P. M. Chaikin, A. Donev, W. Man, F. H. Stillinger and S. Torquato, **INDU. ENG. CHEM. RES.** **45** 6960 (2006)  
*Some Observations on the Random Packing of Hard Ellipsoids*
11. P. Dong, W. Man, JY Gao, **PHYS. LETT. A** **265** (1-2): 43-51 (2000)  
*Probe amplification from Raman gain to inversionless gain*
12. P. Dong, W. Man, JY Gao, **LASER PHYS.** **11** (11): 1158-1166 NOV (2001)  
*Inversionless gain without incoherent pumping*
13. P. Dong, S. Tang, W. Man, JY Gao, **MOL. OPT. PHYS.** **34** 2851-2867 (2001)  
*Amplification without inversion with two coherent coupling lasers in a four-level atom*
14. R. Zheng, X. Guo, J. Wang, W. Man, R. Wang, J. Meng, **PROC. SPIE** Vol. 4916, p. 53-57, **Optics in Health Care and Biomedical Optics: Diagnostics and Treatment**, Britton Chance; Mingzhe Chen; Gilwon Yoon; Eds. (2002)  
*Effect of anti-cancer medicament on the validity of a fluorescence-based technique for cancer diagnosis,*
15. S. Yuan, W. Man, J. Yu JY Gao, **CHINESE PHYS. LETT.** **18** (3): 364-366 MAR (2001)  
*Time delay properties of a Fabry-Perot interferometer,*

### Work Featured / Reviewed in Professional Publications:

1. *Forbidden light*, by A. Jenkins, **NATURE PHYSICS**, (Aug. 18 2005)
2. *Photonic crystals move into new areas*, by B. Dumé, **PHYSICS WORD**, (Aug. 17 2005)
3. *Model photonic quasicrystals: Optical materials*, by M. Telford, **MATERIALS TODAY**, **8**, (10) 13 (2005)
4. *Quasicrystals step out of the shadows*, by M. Peach, **MATERIALS TODAY**, **9**, (7) 44 (2006)

### Conference Talks and Invited Seminars:

1. *Observation of Self-Trapping of Light in “Air-Bubble”-Type Nonlinear Nano-Suspensions*, Jai Prakash\*, Weining Man, Ze Zhang\*, Peng Zhang\*, Demetrios Christodoulides, Zhigang Chen, Frontiers in Optics 2011-Laser Science XXVII, Optical Society of America’s Annual meeting (2011)
2. *Observation of Localized Modes in Optically Induced Disordered Lattices*, Peigen Ni\*, Peng Zhang\*, Weining Man, Jianke Yang, Zhigang Chen, Frontiers in Optics (2011)-Laser Science XXVII, Optical Society of America’s Annual meeting (2011)
3. *Measurement of photonic band diagram in non-crystalline photonic band gap (PBG) materials*, Weining Man, Eric Williamson\*, Seyed Hashemizad\*, Polin Yadak\*, Marian Florescu, APS March Meeting (2011)
4. *Experimental observation of photonic bandgaps in two dimensional hyperuniform disordered materials*, Seyed Hashemizad\*, Weining Man, Marian Florescu, Polin Yadak\*, Kazue Matsuyama\*, Salvatore Torquato, Paul Steinhardt, Paul Chaikin, APS March Meeting (2011)
5. *Disordered Hyperuniform Photonic Band Gap Materials* Florescu, M., W. Man, Chaikin, P., Torquato, S., Steinhardt, P. J., APS March Meeting (2011)
6. *Experimental observation of photonic bandgaps in hyperuniform disordered material* W. Man, M. Florescu, K. Matsuyama, P. Yadak, S. Torquato, P. Steinhardt, and P. Chaikin, in Conference on Lasers and Electro-Optics (CLEO) and the Quantum Electronics and Laser Science Conference (QELS), paper CThS2. (2010)
7. *Geometry and Symmetry in Experimental Condensed Matter Physics*, Invited Colloquium, UCSC (2008)
8. *Geometry and Symmetry in Photonics and Materials Science*, Invited LASSP Seminar, Cornell University (2008)
9. *Geometry and Symmetry in Photonics and Material Science*, Invited Seminar, Brown University, Institute for Molecular and Nanoscale Innovation (2008)
10. *Geometry and Symmetry in Experimental Condensed Matter*, Invited Seminar, Tufts University (2008)
11. *Critical stresses and cracking in thin films of colloidal dispersions*, W. Man, W. B. Russel and N. Wu, 81st ACS Colloid and Surface Science Symposium, (2007)
12. *Critical stresses and cracking in thin films of colloidal dispersions*, W. Man and W. B. Russel, APS March Meeting (2007)
13. *Calculations of the Photonic Properties of Two Dimensional quasiCrystals*, W. Man, O. Crisafulli, P. Chaikin, P. Steinhardt, APS March Meeting (2006)

14. *Experimental measurement of the photonic properties of icosahedral quasicrystals*,  
W. Man invited speaker for Condensed Matter Physics Seminar at Princeton University (2005)
15. *Two-dimensional order-disorder (melting) transition in a diblock copolymer cylinder-forming thin-film system*,  
W. Man, D. E. Angelescu, V. Pelletier, M. W. Wu, D. H. Adamson, R. A. Register, P. M. Chaikin, APS March Meeting (2005),
16. *Experiments on Random Packings of Ellipsoids*,  
W. Man, A. Donev, F. H. Stillinger, M. Sullivan, W. B. Russel, D. Heeger, S. Inati, S. Torquato and P. M. Chaikin. APS March Meeting, (poster) (2005),
17. *Experiments on 3D and calculations on 2D photonic quasicrystals*,  
W. Man, M. Mischa, P. Chaikin, P. Steinhardt, APS March Meeting (2004),
18. *Jammed Ellipsoids Beat Jammed Spheres*,  
P. Chaikin, A. Donev, W. Man, I. Cisse, F. Stillinger, S. Torquato, APS March Meeting (2004),
19. *Microwave Study of Photonic bands and gaps in model 3D crystals and quasi-crystals*.  
W. Man, O. Crisafulli, P. Chaikin, P. Steinhardt, APS March Meeting (2003),

#### **COURSES TAUGHT/ TEACHING AT SFSU**

PHYS 111 General Physics I  
 PHYS 112 General Physics I Laboratory  
 PHYS 491 Advanced Laboratory-GWAR  
 PHYS 697 Senior Project  
 PHYS 699 Independent Study  
 PHYS 897 Graduate Research  
 PHYS 899 Graduate Independent Study  
 PHYS 732 Instructional Methods in Physics  
 PHYS 730 Photonics and Nano Material  
 PHYS 891 Physics Research Design  
 PHYS 898 Master's Thesis  
 PHYS 490 Project Lab-GWAR  
 PHYS 896 Directed Reading Physics

#### **SYNERGISTIC ACTIVITIES**

1. Transformed the curricula of transitional advanced laboratory courses into research-oriented laboratory courses focusing on real-world problem solving and develop a new course in photonics
2. Recruited and mentored underrepresented and economically-challenged undergraduate and graduate students in research to help them build a career path geared at academic success.
3. Hosted scientific workshops and laboratory tours for undergraduates, high school students and teachers.
4. Reviewed manuscripts for American Physical Society (APS) Journals, including PRL, PRB, et. al.
5. Serve in the infrastructure committee in the College of Science & Engineering
6. Faculty Advisor, Optical Society of America, San Francisco State University Student Chapter