8th International Conference on Photorefractive Effects Materials and Devices
(July 8-12)

Oral Program

Monday, July 9 8:30-10:00

Welcome to the Conference (15 minutes)

Session 1 "Applications I"

1. (Invited) Matrix Algebra Approach to Photorefractive Beam Coupling.
Dana Anderson and Valeria Damiao

2. Whole-field coherence-gated 3-D imaging.
Y. Gu, Z. Ansari, C. Dunsby, M. Itoh, M. Tziraki and P. M. W. French, D. D. Nolte and M. R. Melloch

3. High frame rate joint Fourier transform correlation by pulsed interband photorefraction in $Sn_2P_2S_6$.
R. Ryf, G. Montemezzani, P. Günter, A. A. Grabar and I. M. Stoyka

4. Holographic camera with BSO applied to microgravity fluid experiment onboard ISS.
Marc P. Georges, Luc Joannes, Cédric Thizy, Frank Dubois, Olivier Dupont, Philippe C. Lemaire, and Jean-Claude Legros

Monday, July 9 10:30-12:00

Session 2 "Optical Storage I"

5. (Invited) The role of Mn in photorefractive $LiNbO_3$.
Yunping Yang, Dirk Berben, Ali Adibi, Karsten Buse and Demetri Psaltis

6. Rapid Grating Compensation in Iron-doped Paraelectric KLTN.
Mark Ivker and Aharon Agranat

7. The structure of KLTN and the nature of its ferroelectric transition, as determined by neutron diffraction studies.
R. Gatt, G. Perpelipsa, P. Russian, M. Ben-Moshe and A. J. Agranat

8. Performance trade-offs in holographic recording in doubly doped $LiNbO_3$ crystals.
Ali Adibi, Karsten Buse, and Demetri Psaltis

9. Content-adressable data storage in holographic memories based on phase-coded multiplexing.
C. Denz, K.-O. Müller, G. Berger, T. Tschudi, S. Orlov, B. Phillips, and B.Hesselink

Monday, July 9 2:00-3:00

Session 3 "Dynamics"

10. (Invited) Wealth of dynamic regimes of feedback-controlled photorefractive beam coupling.
E. V. Podivilov, B. I. Sturman, V. Ya. Gayvoronsky, K. H. Ringhofer, V. P. Kamenov, S. G. Odoulov, S. Pavlyuk, and K. V. Shcherbin

11. Modeling of critical enhancement of photorefractive response in cubic crystals.
E. V. Podivilov and B. I. Sturman, K. H. Ringhofer and V. Kamenov, H. C. Pedersen and P. M. Johansen

12. Detection of resonance space-charge wave peaks for holes and electrons in photorefractive crystals.
Ivan de Oliveira and Jaime Frejlich

Monday, July 9 3:30-4.45

Session 4 "Adaptive Interferometry"

13. Surface-Free Photo-EMF Adaptive Photoreceivers with Interdigitated Co-Planar Contacts.
J. A. Coy, D. D. Nolte, M. B. Klein, B. Pouet, G. J. Dunning, and D.
M. Pepper

14. Homodyne Detection of Ultrasound Through Turbid Media Using a Photorefractive Quantum Well Receiver.
P. Yu, D. D. Nolte, and M. R. Melloch

15. Multiple exposure holographic interferometry with sillenite crystals applied to vibration measurements.
Marc P. Georges, Cédric Thizy, Philippe C. Lemaire, Gilles Pauliat, and Gérald Roosen

16. Detection of speckle pattern vibration using alternating transverse photocurrent.
I. Rocha-Mendoza, A. V. Khomenko, and C. A. Fuentes-Hernández.

17. Linear phase-to-intensity transformation in crystals with non-local photorefractive response.
K. Paivasaari and A. A. Kamshilin, B. Sturman, G. F. Calvo, F.Agullo-Lopez, and M. Carrascosa

Monday, July 9 8:00-10:00

Poster Session 1

Tuesday, July 10 8:30-10:00

Session 5 "Photorefractive Organics"

18. (Invited) Evidence for mechanical properties ruling dielectric and electro-optical properties in various low Tg photorefractive doped polymers.
J.C. Ribierre, G. Cheval, L. Mager, A. Fort, S. Méry, and J.F. Nicoud

19. On Light induced charge transport in photorefractive polymers.
Per Michael Johansen , Thomas Garm Pedersen, Evgeny V. Podivilov and Boris I. Sturman

20. Properties of Photorefractive Gratings in Bacteriorhodopsin Films for Real-Time Optical Signal Processing.
E. Korchemskaya, N. Burykin, and D. Stepanchikov

21. Infrared-sensitive photorefractive polymer composites and fully functionalized polymethacrylates with high gain and dynamic range.
Eric Hendrickx, David Van Steenwinckel, Mark Schaerlaekens, Christiaan Engels, Elke Gubbelmans, Celest Samyn and Andre Persoons

22. Non-steady-state photo-EMF and dynamic two-wave mixing of phase modulated beams in PVK-based photorefractive polymers.
R. Ramos Garcia, V. Camacho Pernos, S. Stepanov, S. Mansurova, R. Bittner, and K. Meerholz

Tuesday, July 10 10:30-12:00

Session 6 "Optical Storage II"

23. Data Security in Holographic Memory using Double Random Polarization Encryption.
Osamu Matoba, Xiaodi Tan, Tsutomu Shimura, Kazuo Kuroda, and Bahram Javidi

24. Holographic approach to store binary data densely beyond the Rayleigh limit using near-field scanning optical microscopy.
Kyoung-Youm Kim and Byoungho Lee

25. Mechanisms of dark decay of holograms in lithium niobate crystals.
Yunping Yang, Ingo Nee, Karsten Buse, and Demetri Psaltis

26. A new method of electrical fixing in strontium-barium niobate crystals.
M. Wesner, C. Herden, and D. Kip

27. Optical storage of information via refreshing by inverse seeding in a photorefractive $Ba_{0.77}Ca_{0.23}TiO_3$ crystal (BCT).
V. Matusevich, A. Kiessling, and R. Kowarschik

28. Origin of the enhancement of the resistance against the optical damage in Mg-doped stoichiometric Lithium niobate crystals.
Guangyin Zhang and Jingjun Xu

Tuesday, July 10 2:00-3:00

Session 7 "Applications II"

29. Optical Carrier Suppression Using Two-Beam Coupling in Photorefractive Barium Titanate.
Dana Anderson, Valeria Damiao, Stefania Romisch, Amy Sullivan, Darko Popovic, and Zoya Popovic

30. Photorefractive X-ray imaging.
Dirk Berben, Birk Andreas, and K. Buse

31. An optically smart antenna array.
Dana Anderson, Edeline Fotheringham, Stefania Romisch, Paul Smith, and Zoya Popovic

32. Laser diode made single-mode by an intracavity photorefractive filter.
Sébastien Maerten, Nicolas Dubreuil, Gilles Pauliat, Jean-Michel Jonathan, Gérald Roosen, and Daniel Rytz

Tuesday, July 10 8:00-10:00

Poster Session 2

Wednesday, July 11 8:30-10:00

Session 8 "Photorefractive Quantum Wells"

33. (Invited) Photorefractive quantum well p-i-n diode: Design for high resolution and broad bandwidth.
S. Iwamoto, M. Nishioka, T. Someya, Y. Arakawa, T. Shimura, and K.Kuroda

34. Photo-EMF effect under the influence of nonlinear hot-electron transport in photorefractive quantum wells diodes.
E. Hernandez-Hernandez, C. Garcia-Lara, P. Rodriguez, R. Ramos-Garcia, D. D. Nolte, and M. R. Melloch

35. Photorefractive multiple quantum well device at 1064 nm and its application to adaptive vibration measurement.
S. Iwamoto, S. Taketomi, M. Nishioka, T. Someya, Y. Arakawa, T. Shimura and K. Kuroda

36. Simultaneous measurement of absorption and phase grating in GaAs photorefractive quantum wells.
R. Ramos-Garcia, K. Nakawaga, D. Nolte, M.R. Melloch

37. Application of Photorefractive Multiple Quantum Wells to Biological Imaging.
P. Yu, D. D. Nolte, and J. J. Turek

Wednesday, July 11 10:30-12:00

Session 9 "Spatial Effects"

38. Ultrafast electrooptic effect: from photorefractive Gunn domain to terahertz frequency space charge waves.
L. Subacius and K. Jarasiunas

39. Spatial (2+1)D higher-order vector solitons in a photorefractive medium.
C. Weilnau, M. Ahles, C. Denz and W. Krolikowski

40. Effect of a photovoltaic field on the Bragg condition in $LiNbO_3$.
V. M. Petrov, C. Denz, A. V. Chamray, M. P. Petrov, and T. Tschudi

41. Novel geometrical model of photorefractive beam-fanning in barium titanate used to stabilize Double Phase Conjugation.
C. Mailhan, N. Fressengeas, M. Goetz, and G. Kugel

42. Photorefractive effect in cubic crystal under a revolving electric field.
A. V. Khomenko, I. Rocha-Mendoza, and C. A. Fuentes-Hernández., Victor V. Prokofiev and Ervin Nippolainen

43. Analysis of Single Beam Propagation in Photorefractive Media under an AC field.
G.F. Calvo, M. Carrascosa, F. Agulló-López, and B. Sturman

Wednesday, July 11 2:00-3:00

Session 10 "Laser Applications"

44. (Invited) Stabilisation of a 1.55-µm extended-cavity semiconductor laser by intra-cavity dynamic holography.
Antoine Godard, Gilles Pauliat, Gerald Roosen, Philippe Graindorge, and Philippe Martin

45. (Invited) Photorefractive spatial cleanup of beams emitted by solid state lasers and large core multimode Yb doped fibers.
A. Brignon, J.-P. Huignard, and E. Lallier

Wednesday, July 11 3:30-4:30

Session 11 "Properties of Crystal PRCs"

46. Optical poling in Rh:$BaTiO_3$.
R. S. Cudney and M. Kaczmarek

47. UV photorefractive effect in Na2O doped lithium niobate crystals.
Haijun Qiao, Jingjun Xu and Guangyin Zhang

48. Optical properties of nonstoichiometric sillenite-type crystals.
H. Vogt, R. R. Garcia, K.Buse, and E.Kraetzig

49. Orientation dependence of photorefractive gain in BCT :determination of electrooptic coefficients.
Sylvie Bernhardt, Lauren Mize, Philippe Delaye, Ortwin Schirmer, and Gérald Roosen

Closing Remarks

Wednesday, July 11 Evening Banquet and Awards