



INTERNATIONAL SYMPOSIUM



“PHOTONS AND PHONONS IN SOLIDS”

TO HONOR PETER HALEVI

on the occasion of his 70th birthday

**Instituto de Física de la BUAP, Puebla, Pue., Mexico
January 27 and 28, 2005**

Invited talks:

Peter Halevi

(INAOE, Tonantzintla)

- **Adrián Reyes-Cervantes** (IF-UNAM, Mexico City)
- **Alexei A. Maradudin** (University of California, Irvine, USA)
- **Andrey Kosarev** (INAOE, Tonantzintla)
- **Antal Jakli** (Kent State University, Kent, USA)
- **Arkadii Krokhin** (University of North Texas, Denton, USA)
- **Felipe Ramos-Mendieta** (CIF-US, Sonora)
- **Germán Luna-Acosta** (IF-BUAP, Puebla)
- **Gregorio H. Cocoletzi** (IF-BUAP, Puebla)
- **Isaac Hernández-Calderón** (CINVESTAV-IPN, Mexico City)
- **Jesús Arriaga-Rodríguez** (IF-BUAP, Puebla)
- **Jesús Manzanares-Martínez** (CIF-US, Sonora)
- **Jorge A. Gaspar Armenta** (CIF-US, Sonora)
- **Leonard Dobrzynski** (University of Lille, France)
- **Rafael Baquero** (CINVESTAV-IPN, Mexico City)
- **W. Luis Mochán** (CCF-UNAM, Cuernavaca)
- **Yuri G. Gurevich** (CINVESTAV-IPN, Mexico City)

Organizing Committee

Felipe Pérez Rodríguez, Chairman (IF-BUAP, Puebla)

Pedro H. Hernández-Tejeda (VIEP-BUAP, Puebla)

N. Rutilo Silva González (IF-BUAP, Puebla)

Francisco Soto Eguibar (INAOE, Tonantzintla)

Sponsored by the Consejo Nacional de Ciencia y Tecnología de México.



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Program

Thursday, January 27

10:00-10:30	Opening
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Oral Session I, Chair: A. Maradudin

10:30-11:30	I-1. Peter Halevi <i>(INAOE, Tonantzintla)</i> “Mean Field Theory of Metallo-Dielectric Photonic Crystals – I”
11:30-11:50	I-2. Felipe Pérez-Rodríguez <i>(IF-BUAP, Puebla)</i> “Mean Field Theory of Metallo-Dielectric Photonic Crystals – II”

11:50-12:10	Coffee break
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Oral session II, Chair: A. Jakli

12:10-12:50	II-1. Arkadii Krokhin <i>(University of North Texas, Denton)</i> “Effective Parameters of Periodic Media and Theory of Homogenization of Photonic and Phononic Crystals”.
12:50-13:10	II-2. Jesús Arriaga-Rodríguez <i>(IF-BUAP, Puebla)</i> “Photonic Crystals and Photonic Crystal Fibers”.
13:10-13:30	II-3. Felipe Ramos-Mendieta <i>(CIF-US, Sonora)</i> “Acoustic Waves in One – And Two – Dimensional Phononic Crystals”.
13:30-13:50	II-4. Jesús Manzanares-Martínez <i>(CIF-US, Sonora)</i> “Simulación Numérica de Ópalos como Cristales Fotónicos”.

15:40-17:00

- P-1. **A. S. Sánchez** (*INAOE*)
“**Emisión espontánea en un cristal fotónico unidimensional**”.
- P-2. **J.A. Reyes-Avendaño** (*INAOE*)
“**Sintonización Eléctrica de Cristales Fotónicos Bidimensionales Infiltrados con Cristal Líquido**”.
- P-3 **M. Gracia y Jiménez** (*IF-BUAP*)
“**Characterization of nonstoichiometric CdSe films**”
- P-4. **T. Prutskij** (*IC-BUAP*)
“**Polarized photoluminescence of the of GaInP₂ layers grown on GaAs substrates by LPE and MOVPE techniques**”.
- P-5. **B. Flores-Desirena** (*FCFM-BUAP*)
“**Magnetoexcitons in an asymmetric double quantum well: optical properties**”
- P-6. **A. Ilinski** (*IC-BUAP*)
“**The photonic properties of synthetic and biological materials**”
- P-7. **M. Palomino-Ovando** (*FCFM-BUAP*)
“**Estudio de defectos en cristales fotónicos unidimensionales**”.
- P-8. **M. del Castillo-Mussot** (*IF-UNAM*)
y **G.J. Vázquez** (*IF-UNAM*)
“**Stark effect of hydrogenic impurities in a cubic quantum box**”.
- P-9. **E.A. Gutiérrez D.** (*INAOE*)
“**Low Temperature Semiconductor Electronics**”.
- P-10. **O. Malik** (*INAOE*) y **J. De la Hidalga W.** (*INAOE*)
“**Edge Band Emission from Monocrystalline Silicon**”.
- P-11. **V. Grimalsky** (*INAOE*)
“**Resonant Excitation of Microwave Acoustic Modes in n-GaAs Film**”.
- P-12. **J.F. Rivas-Silva** (*IF-BUAP*)
“**Theoretical study of vibrational modes of CH₃OH adsorbed to MgO surface**”.
- P-13. **H. Moya-Cessa** (*INAOE*)
“**Medición de la función de onda de un fotón**”.
- P-14. **R. Ramos-García** (*INAOE*)
“**El efecto fotorrefractivo y algunas aplicaciones**”

Oral Session III, Chair: L. Dobrzynski

17:00-17:40	III-1. Alexei A. Maradudin <i>(University of California, Irvine, USA).</i> “Synthetic Spectra From Rough Surface Scattering”
17:40-18:00	III-2. Germán Luna-Acosta <i>(IF-BUAP, Puebla)</i> “Impurities and Random Disorder Effects in the Photonic Kronig-Penney Model. Theory vs. Experiment”
18:00-18:20	III-3. Gregorio H. Coccoletzi <i>(IF-BUAP, Puebla)</i> “First principles total energy calculations of the adsorption of germane and digermane on Ge(001)” .

Friday, January 28

Oral Session IV, Chair: A. Reyes

9:30-10:10	IV-1. Leonard Dobrzynski <i>(University of Lille, France)</i> “Simple plasmon multiplexers” .
10:10-10:30	IV-2 W. Luis Mochán <i>(CCF-UNAM, Cuernavaca)</i> “Single-beam and crossed-beams SHG generation from Si nanocrystals” .
10:30-10:50	IV-3. Isaac Hernández-Calderón <i>(CINVESTAV-IPN, Mexico City)</i> “Excitonic properties of one-monolayer thick quantum wells and quantum dots of II-VI semiconductors” .
10:50-11:10	IV-4. Andrey Kosarev <i>(INAOE, Tonantzintla)</i> “Nano-structures in Si-Ge Films” .
11:10-11:30	IV-5 Jorge A. Gaspar Armenta <i>(CIF-US, Sonora)</i> “Surface modes in one-dimensional photonic crystal with left-handed materials” .
11:30-12:00	Coffee break

Oral Session V, Chair: A. Krokhin

12:00-12:40	V-1. Antal Jákli <i>(Kent State University, Kent, USA)</i> “Electromechanical effects in liquid crystals”.
12:40-13:00	V-2. Adrián Reyes-Cervantes <i>(IF-UNAM, Mexico City)</i> “Spatial Soliton in Chiral Crystals”.
13:00-13:20	V-3. Yuri G. Gurevich <i>(CINVESTAV-IPN, Mexico City)</i> “Transport of Nonequilibrium Phonons in Semiconductors”.
13:20-13:40	V-4. Rafael Baquero <i>(CINVESTAV-IPN, Mexico City)</i> “Superconductividad: Novedades Importantes”.
13:40-13:50	Closing
14:30	Symposium Banquet