

**Programme
of the 11 UFPS**

Monday, August 27

Time	Report	Chair	Session	
9.00	S. Ašmontas (opening)	S. Ašmontas	1. Nanostructures and quantum phenomena	
9.15	A. Matulis (inv.)			
9.45	J. Mateos (inv.)			
10.15	M. Godlewski (inv.)			
<i>10.45 – 11.00 Break</i>				
11.00	T. Figelski	J. Požela		
11.15	N. Žurauskienė			
11.30	M.S. Kagan			
11.45	D.A. Firsov			
<i>12.00 – 13.00 Lunch</i>				
13.00	P. Prete (inv.)	M. Godlewski		
13.30	P. Dollfus (inv.)			
14.00	V.K. Ksenevich			
<i>14.15 – 14.30 Break</i>				
14.30	A. Matulionis (inv.)	H.L. Hartnagel	2. Hot electrons and noise in microdevices	
15.00	A. Verevkin (inv.)			
15.30	L. Ardaravičius			
<i>15.45 – 16.00 Break</i>				
16.00	R. Katilius (inv.)			
16.30	S. Ašmontas			
16.45	V.A. Kozlov			
17.00 Posters I Sessions: 1, 2, 4				

Tuesday, August 28

Time	Report	Chair	Session	
9.00	P. Harrison (inv.)	H.G. Roskos	3. Terahertz technology	
9.30	H.L. Hartnagel (inv.)			
10.00	I.N. Yassievich (inv.)			
<i>10.30 – 10.45 Break</i>				
10.45	M.S. Kagan	Q.X. Zhao		
11.00	G. Valušis			
11.15	K.N. Alekseev			
<i>11.30 – 13.00 Lunch</i>				
13.00	H.G. Roskos (inv.)	A. Matulis		
13.30	Q.X. Zhao (inv.)			
<i>14.00 – 14.15 Break</i>				
14.15	S.N. Danilov	M.S. Kagan		
14.30	E. Starikov			
14.45	V.A. Shalygin			
15.00 – 17.00 Posters II Sessions 3, 5				
<i>19.00 – 21.00 Conference dinner</i>				

Wednesday, August 29

Time	Report	Chair	Session
9.00	U. Keler (inv.)	A. Dargys	4. High-speed optoelectronics
9.30	E. Ozbay (inv.)		
10.00	F. Hegmann (inv.)		
10.30	E. Schamiloglu		
<i>10.45 – 11.00 Break</i>			
11.00	P.H. Bolivar (inv.)	I.N. Yassievich	
11.30	A. Dargys		
11.45	J.E. Dmochowski		
12.00	S. Juršėnas		
12.15	V. Komolov		
<i>12.30 – 13.30 Lunch</i>			
13.30	V. Gulbinas (inv.)	S. Juršėnas	5. Materials for high-speed optoelectronics
14.00	J. Požela		
<i>14.15 – 14.30 Break</i>			
14.30	A. Medvid'	A. Matulionis	
14.45	S. Balevičius		
15.00	G. Juška		
15.15	R. Brazis		
15.30	S. Ašmontas (closing)		
<i>16.00 Excursion</i>			

Sunday, August 26

- 8.00-21.0** **Registration** – Foyer of the Semiconductor Physics Institute,
A. Goštauto str. 11
- 19.00** **Welcome cocktail** – Palace Verkiai

Monday, August 27

- 8.00-9.00** **Registration**
- 9.00** **S. Ašmontas**, Opening.

NANOSTRUCTURES AND QUANTUM PHENOMENA

- 9.15** **A. Matulis, Y. B. Levinson**, “Tunneling in quantum hall systems” (inv.).
- 9.45** **J. Mateos**, “Optimization of heterojunction devices for high-frequency and low-noise operation” (inv.).
- 10.15** **M. Godlewski, V. Yu. Ivanov, A. Khachapuridze, R. Narkowicz, P. J. Bergman, B. Monemar**, “Interaction of microwave heated hot carriers with recombination centers” (inv.).

10.45-11.00 Break

- 11.00** **O. Pelya, T. Figielski, K. Kosiel, T. Wosiński, A. Małkosa, W. Dobrowolski, L. Dobrzański**, “Fine oscillatory structure of the current passing through resonant-tunnelling diodes”.
- 11.15** **N. Žurauskienė, S. Marcinkevičius, G. Janssen, E. Goovaerts, A. Bouwen, P. M. Koenraad, J. H. Wolter**, “Ultrafast carrier dynamics in small InAs/GaAs quantum dots”.
- 11.30** **R. Zobl, E. Gornik, I. V. Altukhov, N. G. Zhdanova, E. G. Landsberg, M. S. Kagan**, “Weak localization in SiGe quantum wells doped with boron”.
- 11.45** **L. E. Vorobjev, A. V. Gluchovskoy, S. N. Danilov, V. Yu. Panevin, D. A. Firsov, N. K. Fedosov, V. A. Shalygin, A. D. Andreev, B. V. Volovik, N. N. Ledentsov, D. A. Livshits, V. M. Ustinov, A. F. Tsatsul’nikov, Yu. M. Shernyakov, M. Grundmann, A. Weber, F. Fossard, F. Julien**, “Nonequilibrium spectroscopy of inter- and intraband transitions in quantum dot structures”.

12.00-13.00 Lunch

- 13.00** **P. Prete**, “Growth and characterisation of Mg-based low dimensional systems for blue-green optoelectronics” (inv.).
- 13.30** **P. Dollfus, S. Barraud, E. Cassan, F. Monsef, S. Galdin**, “Quantum and random impurity effects in ultra-short MOSFET” (inv.).
- 14.00** **V. K. Ksenevich, J. Galibert, H. G. Roskos, V. A. Samuilov**, “Magnetotransport in low dimensional honeycomb-shape GaAs networks”.

14.15-14.30 Break

HOT ELECTRONS AND NOISE IN MICRODEVICES

- 14.30** **A. Matulionis, J. Liberis**, “Hot electron microwave noise in a two-dimensional electron gas” (inv.).

- 15.00** **A. Verevkin**, “Direct measurements of energy relaxation times in two-dimensional structures under quasiequilibrium conditions” (inv.).
- 15.30** **L. Ardaravičius, J. Liberis, A. Matulionis, B. Ya. Mel'tser, V. A. Solov'ev, T. V. Shubina, S. V. Ivanov, P. S. Kop'ev**, “Energy relaxation time and microwave noise in InAs/AlSb/GaSb/GaAs heterostructures”.

15.45-16.00 Break

- 16.00** **R. Katilius**, “Kinetic approach to fluctuation phenomena: a historical outline” (inv.).
- 16.30** **S. Ašmontas, J. Gradauskas, D. Seliuta, A. Sužiedėlis, E. Širmulis**, “Investigation of degenerate carrier heating in tunneling GaAs p-n junction”.
- 16.45** **V. A. Kozlov, A. B. Kozyrev, A. V. Samokhvalov**, “Dynamic negative differential conductivity due to hot electron transit time effects in momentum space”.

16.30-18.30 Posters I
Sessions 1, 2, 4

1. **M. Godlewski, E. Guziewicz, K. Leonardi, D. Hommel, P. J. Bergman, B. Monemar**, “Influence of structural properties and of growth conditions on exciton properties in ZnCdSe/ZnSe quantum well structures”.
2. **R. A. Bendorius, V. Jasutis, V. Pačebutas, J. Sabataitytė, I. Šimkienė, H. Tvardauskas, A. Baranov**, “Morphology and photoluminescence of anodially grown porous layers on some Ga-V compounds”.
3. **A. A. Bulgakov, V. K. Kononenko**, “Electrodynamic properties of a magnetoactive semiconductor-dielectric superlattice”.
4. **J. Marciak-Kozłowska, M. Kozłowski**, “*Spintronics* at the nanostructure level”.
5. **J. Marciak-Kozłowska, M. Kozłowski, Z. Mucha**, “Time and energy scales for thermal properties of nanoparticles”.
6. **T. Puritis, J. Kaupuzs**, “Light emission from silicon nanocrystals”.
7. **J. Kavaliauskas, B. Čechavičius, G. Krivaitė, V. I. Kadushkin, E. L. Shangina**, “Study of photomodulation dynamics of excitonic reflectivity in GaAs/AlAs quantum well heterostructures”.
8. **V. K. Ksenevich, G. Valušis, H. G. Roskos, V. A. Samuilov**, “Photoconductivity of regular low dimensional arrays of GaAs wires”.
9. **S. Ašmontas, S. Bumelienė, J. Gradauskas, D. Seliuta, A. Sužiedėlis, G. Valušis**, “Influence of hole recombination rate on microwave detection in compensated germanium”.
10. **S. Ašmontas, J. Gradauskas, D. Seliuta, A. Sužiedėlis, E. Širmulis, G. Valušis, V. V. Tetyorkin**, “CO₂ laser induced hot carrier photoeffect in CdHgTe”.
11. **Yu. O. Averkov, V. M. Yakovenko**, “Stabilization of surface plasma waves at surfaces of two-valley semiconductors”.
12. **S. Bumelienė, G. Mykolaitis, G. Lasienė, A. Čenys, A. Tamaševičius**, “Evaluation of high-speed bipolar transistors for application to chaotic colpitts oscillator”.
13. **R. Rengel, J. Mateos, D. Pardo, T. Gonzalez, M. J. Martin**, “RF noise in a short channel n-MOSFET: a Monte Carlo study”.
14. **J. Matukas, V. Palenskis, Č. Pavasaris, S. Pralgauskaitė, J. G. Simmons, S. Smetona, R. Sobiestianskas, E. Šermukšnis, J. Vyšniauskas**, “Optical and electrical characteristics of InGaAsP DFB MQW laser diodes”.
15. **Ž. Kancleris, S. Mickevičius, R. Simniškis, A. Šilėnas**, “Optically controlled fast switching of microstrip resonator”.

16. **V. Ziraps**, “Role of shallow electron traps in the fast transient optical phenomena of alkali halide crystals”.

Tuesday, August 28

TERAHERTZ TECHNOLOGY

- 9.00** **P. Harrison, M. P. Halsall, W.-M. Zheng, J.-P. R. Wells, I. V. Bradley**, “Quantum-confined impurities as single-electron quantum dots: application in terahertz emitters” (inv.).
- 9.30** **H. L. Hartnagel, V. Ichizli, M. Rodriguez-Gironés**, “Semiconductor technology for THz integration” (inv.).
- 10.00** **M. S. Kagan, I. N. Yassievich**, “Resonant acceptor states and stimulated THz emission in semiconductors and semiconductor structures” (inv.).

10.30-10.45 Break

- 10.45** **R. Zobl, E. Gornik, I. V. Altukhov, K. A. Korolev, V. P. Sinis, M. S. Kagan**, “Low-voltage lasing of p-Ge under uniaxial stress”.
- 11.00** **G. Valušis, R. Sachs, H. G. Roskos, A. Sužiedėlis, J. Gradauskas, S. Ašmontas, E. Širmulis, K. Köhler**, “GHz-THz detection by asymmetrically-shaped GaAs: bulk material versus nanostructures”.
- 11.15** **K. N. Alekseev, P. Pietiläinen, F. V. Kusmartsev**, “Chaos and dc voltage generation in semiconductor superlattices driven by strong THz field”.

11.30-13.00 Lunch

- 13.00** **H. G. Roskos**, “Generation of continuous-wave THz radiation by photomixing – an overview” (inv.).
- 13.30** **Q. X. Zhao, M. Willander**, “Terahertz semiconductor laser structures” (inv.).

14.00-14.15 Break

- 14.15** **L. E. Vorobjev, S. N. Danilov, D. A. Firsov, V. N. Tulupenko, H. H. Cheng**, “Tunable millimeter range generator based on transit time electron resonance in InP”.
- 14.30** **E. Starikov, P. Shiktorov, V. Gružinskis, L. Reggiani, L. Varani, J.C. Vaissiere, J. H. Zhao**, “Comparative study of terahertz generation in wide band gap bulk semiconductors”.
- 14.45** **E. Towe, D. Pal, L. E. Vorobjev, A. V. Gluhovskoy, S. N. Danilov, V. L. Zerova, V. Yu. Panevin, D. A. Firsov, V. A. Shalygin, G. G. Zegrya, A. Weber, M. Grundmann**, “Injection lasers based on intraband carrier transitions”.

15.00-17.00 Posters II

Sessions 1, 4, 5

- V. Gružinskis, E. Starikov, P. Shiktorov**, “InN submicron structure for generation at terahertz frequencies”.
- V. Gružinskis, E. Starikov, P. Shiktorov, J. H. Zhao**, “Theoretical design and analysis of SiC n⁺pnn-n⁺ diodes for 400 GHz microwave power generation”.
- L. Subačius, I. Kašalynas, K. Jarašiūnas**, “Ultrafast optical nonlinearities in GaAs crystals driven by strong terahertz-wave field”.

4. **A. A. Abramov, V. I. Akimov, V. M. Bondar, V. N. Poroshin, V. N. Tulupenko**, “Influence of the uniaxial pressure on the polarization of the spontaneous radiation from p-Ge”.
5. **A. B. Kozyrev**, “Generation and frequency transformation of high-frequency radiation in bi-modal electrodynamic system filled by asymmetric multilayer heterostructure”.
6. **S. Balevičius, O. Kiprijanovič, A. Jukna, F. Anisimovas, A. Abrutis, V. Plaušinitienė, J. Paršeliūnas, B. Vengalis, N. Žurauskienė**, “Fast electrical and optical pulse induced resistance change in thin manganite films”.
7. **A. Jukna, J. Paršeliūnas, R. Simniškis, J. Aleksandrovič, S. Balevičius, U. O. Karlsson**, “Investigation of the pulse laser excited small-dimensions magnetic-dipole antenna radiation”.
8. **V. Kažukauskas, E. Kuprusevičius, J.-V. Vaitkus, K. M. Smith**, “Defects, their interaction and modification by irradiation in semi-insulating GaAs”.
9. **V. Kažukauskas, H. Tzeng, S.-A. Chen**, “Charge traps and effect of oxygen in MEH-PPV polymer devices”.
10. **N. N. Beletskii, S. A. Borysenko**, “Determining the antiferromagnetic resonance frequency in semimagnetic semiconductors by means of surface polaritons”.
11. **G. Vāle, A. Krūminsh**, “Active media for optical data processing”.

19.00-21.00 Conference dinner

Wednesday, August 29

HIGH-SPEED OPTOELECTRONIC

- 9.00** **M. Achermann, U. Siegner, U. Keller**, “Ultrafast goes local” (inv.).
- 9.30** **E. Ozbay, I. Kimukin, N. Biyikli**, “Ultrafast & highly efficient resonant cavity enhanced photodiodes” (inv.).
- 10.00** **F. Hegmann**, “Time-resolved terahertz-pulse characterization of semiconductors” (inv.).
- 10.30** **E. Schamiloglu, N. E. Islam, F. J. Agee**, “Ultrafast risetime GaAs photoconductive switches”.

10.45-11.00 Break

- 11.00** **P. H. Bolivar**, “Label-free probing of the binding state of DNA by time-domain terahertz sensing” (inv.).
- 11.30** **A. Dargys**, “Optimization of ultrafast optical transitions using genetic algorithm”.
- 11.45** **J. E. Dmochowski**, “The observation of deep, one-electron states of substitutional donor impurities in semiconductors – possible implications for high-speed electronics and optoelectronics”.
- 12.00** **S. Juršėnas, S. Miasojedovas, N. Kurilčik, G. Kurilčik, A. Žukauskas, J. Yang, M. Asif Khan, M. S. Shur, R. Gaska**, “Stimulated emission in InGaN/GaN quantum wells”.
- 12.15** **V. L. Komolov, M. N. Libenson**, “Ultrashort laser pulses action on the semiconductors: possible processes and sequence of events”.

12.30-13.30 Lunch

MATERIALS FOR HIGH-SPEED OPTOELECTRONICS

- 13.30** V. Gulbinas, “Charge carrier photogeneration dynamics in photoconducting polymers” (inv.).
- 14.00** A. Šilėnas, J. Požela, K. Požela, V. Jasutis, L. Dapkus, V. Jucienė, “Graded-gap $\text{AlGa}_{1-x}\text{As}$ X-ray detectors with fast photovoltaic response”.

14.15-14.30 Break

- 14.30** A. Medvid', Y. Hatanaka, V. Litovchenko, L. Fedorenko, “Mechanism of generation of defects in a semiconductor by pulsed laser radiation”.
- 14.45** S. Balevičius, J. Novickij, O. Kiprijanovič, F. Anisimovas, Č. Šimkevičius, V. Stankevič, B. Vengalis, N. Žurauskienė, L. L. Altgilbers, “Manganite based strong magnetic field sensors used for magnetocumulative generators”.
- 15.00** G. Juška, N. Nekrašas, I. Stuchlik, M. Viliūnas, J. Kočka, “Features of charge carrier transport in $\mu\text{c-Si:H/a-Si:H}$ superlattices”.
- 15.15** R. Brazis, R. Narkowicz, L. Safonova, J. Kossut, “Light reflection band between the Zeeman lines in diluted magnetic semiconductors”.
- 15.30** S. Ašmontas, Closing.

16.00 Excursion