

### Contents

- |   |   |
|---|---|
| <p><b>269</b> Properties of the shallow - <math>D^-</math> centers in semiconductors with polar and covalent binding<br/> <i>N.I. Kashirina, V.D. Lakhno, V.V. Sychyov, M.K. Sheinkman</i></p> <p><b>274</b> Capture coefficients of free excitons by shallow acceptors and donors in gallium arsenide<br/> <i>K.D. Glinchuk, N.M. Litovchenko, O.N. Strilchuk</i></p> <p><b>278</b> Injection currents in lamellar crystals of gallium telluride<br/> <i>R.S. Madatov, T.B. Tagiyev, I.A. Gabulov, T.M. Abbasova</i></p> <p><b>282</b> Role of silicon oxide defects in emission process of Si-SiO<sub>2</sub> systems<br/> <i>M. Baran, B. Bulakh, N. Korsunska, L. Khomenkova, V. Yukhymchuk, M. Sheinkman</i></p> <p><b>287</b> Resonance Raman scattering by intersubband plasmon-phonon excitations in InAs/AlSb structures<br/> <i>M. Ya. Valakh, V.V. Strelchuk, O.F. Kolomys, V.G. Litovchenko, H.L. Hartnagel, J. Sigmund</i></p> <p><b>294</b> Influence of cation vacancy related defects on the self-assembly processes in CdSe/ZnSe quantum dot heterostructures<br/> <i>L.V. Borkovska, N.O. Korsunska, V.I. Kushnirenko, Yu.G. Sadofyev, M.K. Sheinkman</i></p> <p><b>299</b> Mechanism of photoinduced luminescence degradation in CdS<sub>x</sub>Se<sub>1-x</sub> quantum dots<br/> <i>V.P. Kunets, N.R. Kulish, M.P. Lisitsa, V.P. Bryksa</i></p> <p><b>303</b> Regularities of visible photoluminescence creation in low-dimensional silicon structures<br/> <i>E.G. Manoilov</i></p> | <p><b>307</b> Avalanche multiplication of charge carriers in nanostructured porous silicon<br/> <i>D.F. Timokhov, F.P. Timokhov</i></p> <p><b>311</b> Heat-resistant ohmic and barrier contacts for GaAs-based microwave devices<br/> <i>V.N. Ivanov, R.V. Konakova, V.V. Milenin, M.A. Stovpovoi</i></p> <p><b>316</b> Many particle and bandstructure effects in intersubband quantum well optics<br/> <i>M.F. Pereira Jr.</i></p> <p><b>319</b> The features of phonon component of linear dichroism in uniaxially strained silicon crystals<br/> <i>B.K. Serdega, E.F. Venger, I.E. Matyash</i></p> <p><b>324</b> Photo-microdomains in ferroelectrics: formation and light scattering caused by them<br/> <i>A.N. Morozovska, E.A. Eliseev, V.V. Obukhovskiy, V.V. Lemeshko</i></p> <p><b>333</b> Spatial-temporal peculiarities of periodical PILS in ferroelectric PR-crystals<br/> <i>A.N. Morozovska, V.V. Obukhovskiy</i></p> <p><b>346</b> Analysis of exciton reflection spectrum of 2H-PbI<sub>2</sub> layered single crystals with atomically clean surface<br/> <i>V.G. Dorogan, V.O. Zhydkov, F.V. Motsnyi, O.M. Smolanka</i></p> <p><b>349</b> Optical characterization of thin Au films by standard and polaritonic ellipsometry<br/> <i>N.L. Dmitruk, O.V. Fursenko, O.S. Kondratenko, V.R. Romanyuk</i></p> <p><b>354</b> Optical characteristics of Al<sub>2</sub>O<sub>3</sub> oxide coatings on copper mirrors made by diamond microgrinding<br/> <i>V.A. Odarich, L.V. Poperenko, V.S. Staschuk, Y.V. Filipov</i></p> |
|---|---|

- 357 Error detection and debugging on information in communication system using single electron circuit based binary decision diagram**  
*A.K. Biswas, S.K. Sarkar*
- 365 Destabilizing factors in operation of short-cavity He-Ne laser**  
*G.L. Kononchuk, V.V. Stukalenko*
- 370 Design and testing of iodine cells for metrological laser application**  
*A.M. Negriyko, O.V. Boyko, N.M. Kachalova, V.M. Khodakovskiy, O.I. Klochko*
- 378 Non-uniformity of cross-beam laser power distribution as a source of errors in non-linear spectroscopy**  
*S.E. Zelensky*
- 382 Noise-induced escape flux on time-scales preceding quasistationarity**  
*S.M. Soskin, V.I. Sheka, T.L. Linnik*
- 386 Some properties of extremely restricted thermal radiation beams**  
*E.A. Salkov, G.S. Svechnikov*
- 392 Investigation of superlattice structure parameters using quasi-forbidden reflections**  
*V.P. Kladko, L.I. Datsenko, A.A. Korchovyi, V.F. Machulin, P.M. Lytvyn, A.V. Shalimov, A.V. Kuchuk, P.P. Kogutyuk*
- 397 Domino phase retrieval algorithm for structure determination using electron diffraction and high resolution transmission electron microscopy patterns**  
*F. N. Chukhovskii, A. M. Poliakov, I. V. Prokopenko*
- 404 New non-linear model to determine the  $C_{gs}$  and  $C_{gd}$  capacities of GaAs mesfet**  
*N. Merabtine, S. Amourache, Y. Saidi, M. Zaabat, Ch. Kenzai*
- 411 Approximation of electro-optical characteristics of a ChLC at transitions from the homeotropic texture**  
*A. Rybalochka, M. Chumachkova, V. Sorokin*
- 417 Diffraction and interference in wave light phenomena for optical element testing**  
*O.P. Budnyk, R.A. Lymarenko*