

**BULLETIN OF THE RUSSIAN ACADEMY OF SCIENCES. PHYSICS  
SUPPLEMENT**

**PHYSICS OF VIBRATIONS**

Volume 59, Number 1, 1995

**CONTENTS**

**PHASE TRANSITIONS**

- Phase Transitions in a Liquid with Intermolecular Bonds  
*G.A. Lyakhov and Yu.P. Svirko*..... 1

**LASER PHYSICS**

- Numerical Modeling of Amplification of High-Power Laser Pulses in SBS Compression in the Field of Multimode Pumping Radiation  
*A.A. Andreev, A.N. Sutyagin, N.E. Andreev, and A.I. Zykov*..... 11
- On the Compensation of Optical Inhomogeneities by Phase Conjugation in Stimulated Scattering of Excimer-Laser Radiation  
*M.G. Galushkin*..... 18

**NONLINEAR DYNAMICS IN OPTICAL SYSTEMS**

- Wave Processes in Semiconductors due to Optical Radiation under the Condition of Temperature Dependence of the Charge-Carrier Lifetime: Longitudinal Effects  
*O.S. Bondarenko, V.A. Trofimov, and Yu.N. Karamzin*..... 21

**QUANTUM OPTICS**

- Stationary Squeezed States in the Two-Mode Model  
*E.K. Bashkirov*..... 29

**QUANTUM EFFECTS IN WAVE PROPAGATION**

- Revised WKB Approximation for the Schrödinger Equation: Higher Order Corrections to the Quantization Condition  
*V.S. Liberman, A.Yu. Savchenko, V.I. Zalyapin, and B.Ya. Zel'dovich*..... 33

**NONLINEAR ACOUSTICS**

- Parametric Phase Conjugation of an Ultrasonic Wave Scattered from a Solid into Liquid  
*A.P. Brysev, F.V. Bunkin, A.D. Stakhovsky, L.M. Krutyansky, V.L. Preobrazhensky, and Yu.V. Pylnov*..... 40

**FLUID DYNAMICS**

- Stability of Natural Convection in a Melt Pond  
*P.V. Bogorodsky*..... 47
- Influence of High-Frequency Inhomogeneous Vibration on the Free Surface of a Melt  
*V. Uspenskii*..... 53