

Volume 68
 Number 3
 2025
 Pages 211–316

PHYSICS– USPEKHI

English edition of *Uspekhi Fizicheskikh Nauk*
 March 2025 Volume 195 Number 3

*Russian original
 reference
 Usp. Fiz. Nauk
 Vol. 195, pages*

*English translation
 reference
 Phys. Usp.
 Vol. 68, pages*

Contents

REVIEWS OF TOPICAL PROBLEMS

223	Semiconductor nanocrystalline sulfides S.I. Sadovnikov	211
245	State-of-the-art and prospective materials for thermal barrier coatings R.A. Shishkin	232
260	Manifestation of defects and imperfections of lithium niobate crystals in Raman spectra N.V. Sidorov, N.A. Teplyakova, M.N. Palatnikov	246

PHYSICS OF OUR DAYS

276	Nonclassical transport in nonequilibrium rarefied gas flows V.V. Aristov, S.A. Zabelok, A.A. Frolova	261
294	Origin and transport of water in the Universe M.S. Kirsanova, P.V. Baklanov, E.O. Vasiliev, A.I. Vasyunin, D.Z. Wiebe, S.A. Drozdov, T.I. Larchenkova, S.F. Likhachev, A.V. Moiseev, Ya.N. Pavlyuchenkov, P.S. Sozinova, A.P. Topchieva, I.V. Tret'yakov, G.S. Fedoseev, A.V. Khudchenko, N.N. Shakhvorostova	278

Continued overleaf

*Russian original
reference
Usp. Fiz. Nauk
Vol. 195, pages*

Contents continued

*English translation
reference
Phys. Usp.
Vol. 68, pages*

INSTRUMENTS AND METHODS OF INVESTIGATION

- | | | |
|-----|---|------------|
| 311 | Terahertz polarization converters:
physical principles, design, and applications
A.K. Kaveev, G.I. Kropotov | 294 |
|-----|---|------------|

PHYSICS NEWS

- | | | |
|-----|---|------------|
| 334 | Physics news on the Internet: March 2025
Yu N Eroshenko | 315 |
|-----|---|------------|