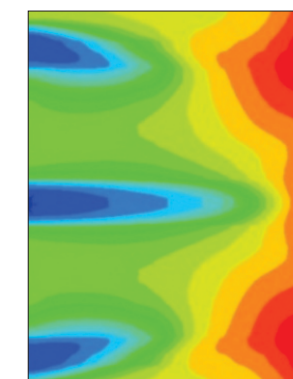
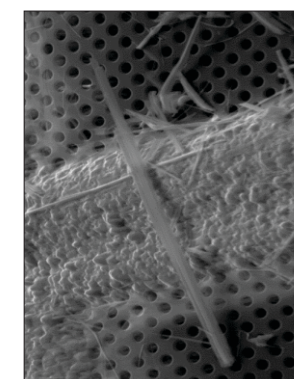


PHYSICAL SCIENCES AND TECHNOLOGY



Physical Sciences and Technology provides an original paperback for the publication of peer-reviewed research and review articles in all fields of Physics and related Technology. The topics, included in the scope, especially emphasize understanding of the physics underlying modern technology.

Editor in Chief

T.S. Ramazanov (Kazakhstan)

Al Farabi Kazakh National University,
71, Al-Farabi av., 050040, Almaty, Kazakhstan.
E-mail: ramazan@physics.kz

Associate Editors

M.T. Gabdullin (Kazakhstan) Condensed matter physics,
Nanoscience, Optical physics, Nonlinear science, Statistical
and nonlinear properties of plasmas, Computational physics

O.A. Lavrishev (Kazakhstan) Atomic, molecular and cluster
physics, General physics, Statistical and nonlinear properties
of fluids, Condensed matter physics, Renewable energy

International Editorial Board

Plasma Physics and Related Technology

I.M. Tkachenko (Spain), O. Ichihara (Japan), Yu.V. Arkhipov (Kazakhstan),
A.E. Davletov (Kazakhstan), K.N. Dzhumagulova (Kazakhstan)

Theoretical Physics and Astrophysics

I.R. Gabitov (USA), V. Dzhunushaliev (Kyrgyzstan), L.M. Chechin (Kazakhstan),
K. Boshkayev (Kazakhstan)

Nuclear Physics and Related Technology

K. Kato (Japan), N.Zh. Takibayev (Kazakhstan), Ye.V. Chikhray (Kazakhstan)

Thermal Physics and Related Technology

V.E. Messerle (Kazakhstan), A.S. Drobyshev (Kazakhstan)

Condensed Matter Physics and Related Technology

Xin Jiang (China), O.Yu. Prikhodko (Kazakhstan), K.D. Tsendin (Russia),
A.M. Ilyin (Kazakhstan), D. Nelson (Italy)

Nanomaterials and Nanotechnology

G. Bill (USA), Kh.A. Abdullin (Kazakhstan), S.I. Zaitsev (Russia)

Electronics and Related Technology

V.M. Timoshenko (Russia), S.M. Manakov (Kazakhstan), A. Temirbayev (Kazakhstan)

Managing Editors

M. Muratov (mukhit.muratov@gmail.com)

N. Akhanova (nazym@physics.kz)

Coordinating Editor

A. Askaruly (Abdiadil.Askaruly@kaznu.kz)

Certificate N 14993-Ж. **Registered** on December 12th, 2014
in the Ministry of Culture and Information of the Republic of Kazakhstan.

IB9147

Publishing house: “Kazakh University”
Address: Al-Farabi ave., 71, Almaty, 500040, Kazakhstan
Phone: +7 (727) 3773330, fax: +7 (727) 3773344.
Circulation: 1000 copy Order N4040

K.K. Dikhanbayev, V.A. Sivakov, F. Talkenberg, G.K. Mussabek, Ye.T. Taurbayev, N.N. Tanatov, E. Shabdan

Electron backscatter diffraction in the silicon nanowires4

V.V. Kudryashov, A.M. Ilyin

Dft study of few-layer graphene-metal composites.....12

B. Muhametuly, A. Duysebayev, Zh. Toksaba

CCD camera in a neutron imaging system for real time and tomography investigations.....18

A.E. Davletov, Zh.A. Kudyshev, A. Kissan

Optical conductivity of graphene and its Drude-like approximation for FDTD.....28

A. Askarova, S. Bolegenova, Z. Jankoski, A. Bekmukhamet, Sh. Ospanova, B. Tolymkanova, Zh. Nagashybay

Numerical investigation of heat transfer characteristics of pulverized coal in the combustion chambers
of the heat energy centers of Kazakhstan.....33

I. Zin, V. Pokhmurskii, G. Yar-Mukhamedova

Peculiarities of corrosion inhibition by mixture of phosphate and calcium containing pigments.....43

A.M. Zhukeshov, A.T. Gabdullina, A.U. Amrenova,

K. Fermahan, K. Serik, N.N. Ahmetzhanova, Zh.K. Erenbayeva, Zh. Rysbekova

The specifics of copper coatings production by pulsed arc method.....49

T.S. Ramazanov, Zh.A. Moldabekov

Dynamical Collision Frequency And Conductivity Of Dense Plasmas.....53

N. Takibayev

Models of dark particle interactions with ordinary matter.....58

M. Abishev, N. Beissen, Zh. Brisheva, F. Belissarova

Propagation of X-ray and gamma ray emissions in strong magnetic and gravitational fields.....70