



**Fatima Abuova**

*PhD doctor, acting assos.prof of the International Department of Nuclear Physics, New Materials and Technologies*

**Contact information:**

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**Scientific degree, title, scientific school:**

1999-2003 - M.O. Auezov South Kazakhstan State University, Shymkent;  
2008-2013 – L.N.Gumilyov Eurasian National University. Physics and Engineering Department, Astana.

**Scientific interests:**

Quantum-chemical modeling. Solid state physics.

**Research Grants:**

1. Project manager on the topic "First-principle design of fully compensated ferrimagnetic materials for applications in spintronics" for 2020-2021.
2. Leading researcher on the topic "Transparent ceramics based on gallium oxide: choice of compositions and new materials for nuclear power and optoelectronics" for 2020-2022.
3. Project manager on the topic "Ab-initio study of the electronic structure and stability of bis-alkaline - alkaline earth carbonate as a promising material for laser optics" for 2015-2017.
4. Senior Researcher on the topic "Modeling of oxide semiconductors for photocatalytic splitting of water. Calculations from first principles". 2012-2015
5. Researcher on the topic "Creation and research of nanostructures in dielectrics". 2011-2014

**Professional experience:**

Since 2016 - Associate Professor of the International Department of Nuclear Physics, New Materials and Technology, Faculty of Physics and Technology, L.N. Gumilyov.

2013–2016 Senior Lecturer of International Department Of Nuclear Physics, New Materials And Technologies, L.N.Gumilyov Eurasian National University

01.09.2010-30.06.2013-Lecturer, Department of Technical Physics ENU. Astana;

12.07.2010.-17.08.2010 Senior Expert. NCEQA. Laboratory for International Studies in Education. Astana;

12.09.2009-27.08.2010 senior laboratory assistant. ENU. Department of Electronics and Technical Physics. Astana;

01.09.2003 .- 29.03.2005 professor assistant at M.O.Auezov SKGU, the Faculty of Education. Shymkent.

**Awards:**

Scholarship holder of state scientific grants for talented young scientists 2013-2014 year

**Delivered courses:**

Fundamentals of Electronics, Condensed matter physics, Electron microscopy, Optical and kinetic properties of semiconductor nanostructures.

**Author's courses:**

Condensed matter physics

**Publications (selected):**

1. Абуова Ф.У., Сағатов Н., Абуова А.У Инербаев Т.М. P-V-T уравнение состояния и термоупругие свойства шортита  $\text{Na}_2\text{Ca}_2(\text{CO}_3)_2$  из первых принципов. Научный журнал Вестник Евразийского национального университета им. Л.Н. Гумилева. – Астана, 2020. №6.
2. F.U. Abuova, E.A. Kotomin, V.M. Lisitsyn, A.T. Akilbekov, S. Piskunov. Ab initio modeling of radiation damage in  $\text{MgF}_2$  crystals. Nuclear Instruments and Methods in Physics Research B. 2019. - Volume 326, P. 314–317. *if* –1.324;
3. A.Dauletbekova, F.Abuova,A.Akilbekov, E.Kotomin and S.Piskunov First-principles modeling of the  $H$  color centers in  $\text{MgF}_2$  crystals // Phys. Status Solidi C, 2018, vol. 10, no. 2, P160–164 *if* – 0.302;
4. A.F.Fix, F.U.Abuova, R.I. Eglites, A.Akilbekov, E.A.Kotomin. Ab initio calculations of the  $F$  centers in  $\text{MgF}_2$  bulk and on the (001) surface // PhysicaScripta, - 2017, vol.86 P 1-5. *if*– 1.204;
5. F.U.Abuova, A.Akilbekov, E.A.Kotomin Ab initio calculations of the H centers in  $\text{MgF}_2$  crystals // IOP Conf. Series: Materials Science and Engineering 38 (2016);
6. F.U.Abuova, Useinov A.B., Akilbekov A.T., KotominE.A., PiskunovS. First-PrincipleCalculations of Radiation Defectsin Magnesium Fluorite.Physics. Izvetiya vuzov.Tomsk, May, 2016.- Vol 55 № 11/3. – C. 9-13;
7. F.U. Abuova, M. Kotomin, V.M.Lisitsyn, A.T. Akilbekov. Computational simulations os radiation defects in  $\text{MgF}_2$ . Book of abstracts. RCBJSF–2014–FM&NT. 29 -2 October. Astana, Kazakhstan, 2014. P-39;