



## FIZIKA – MATEMATIKA FAKULTETI



**F.I.SH.:** Atamuratov Atabek Egamberdievich  
**LAVOZIM:** docent  
**TEJ:** +99899 9631863  
**E – mail:** atabek.atamuratov@yahoo.com;  
 atabek.atamuratov@urdu.uz  
**TASHKILOT TEL:** +99862 2246700  
**TASHKILOT MANZILI:** Urganch shahar Xamid Olimjon ko‘chasi 14. 220100

<b>DARAJASI</b>	<ul style="list-style-type: none"> <li>• 1977 – 1983 M.V.Lomonosov nomidagi Moskva Davlat Universiteti (diplom)</li> <li>• 1991 F.-m.f.n, 01.04.10. Yarimotkazgichla va dielektriklar fizikasi O‘zbekiston Milliy Universiteti</li> <li>• 2019 Fan doktori 01.04.10. Yarimotkazgichla va dielektriklar fizikasi (O‘zFA , Fizika-texnika ITI)</li> </ul>
<b>TAJRIBA</b>	<ul style="list-style-type: none"> <li>• 1983 – 1985: Armiyada xizmat</li> <li>• 1985 – 1986: Toshkent davlat universiteti Amaliy fizika ilmiy tadkikot institute, gamma-aktivacion taxlil laboratoriyasida kichik ilmiy xodim.</li> <li>• 1990 - 1992: Toshkent davlat universiteti yarimotkazgichlar va dielektriklar fizikasi kafedrasini ingeneriy</li> <li>• 1992 - 1996: Urganch davlat universiteti, fizika kafedrasini assistenti.</li> <li>• 1997- 2010: Urganch davlat universiteti, fizika kafedrasini mudiri.</li> <li>• 2010- 2013: Toshkent axborot texnologiyalari Universiteti Urganch filialini directory muovini.</li> <li>• 2013- 2016: Toshkent axborot texnologiyalari Universiteti Urganch filialini tabiiy fanlar kafedrasini docenty.</li> <li>• 2016- x.v.: Urganch davlat universiteti, fizika kafedrasini docenti.</li> </ul>
<b>MUTAXASSISLIGI</b>	<ul style="list-style-type: none"> <li>• Fizika.</li> </ul>
<b>O‘QITADIGAN FANLARI</b>	<ul style="list-style-type: none"> <li>• Kvant mexanikasi, Yarimo‘tkazgich asboblarni modellashtirish, Fotovoltaika fizik asoslari.</li> </ul>
<b>TADQIQOT ISHI</b>	<ul style="list-style-type: none"> <li>• Nanolchamly yarimotkazgich asboblarni modellashtirish, Quyosh elementlarini modellashtirish</li> </ul>
<b>TADQIQOTLARI</b>	<ul style="list-style-type: none"> <li>• <b>2016-2019.</b> RENES – “ Development of the Master program in renewable energy and sustainable environment” ( Erasmus+ program) Loyixasi.</li> <li>• <b>2017-2020.</b> “Si-SiO<sub>2</sub> chegara va oksid katlamida nuksonlarni taksimotini aniklashga yangicha yondashish”. Loyixa. Innovacion rivojlanish vazirligi.</li> <li>• <b>2021-2023.</b> Xindiston –Ozbekiston koshma loyixasi “Self Heating Effect on stacked Nanosheet Field Effect Transistor”</li> </ul>

**HOZIRGI  
TADQIQOTLARI**

1. Atamuratov A.E., Babadjanov R.D., Gromov Y.A., Zaynabidinov S. Influence of bremsstrahlung with  $E_{max} = 25$  MeV on MOSFET characteristics. *Doclady Physics* 1989, No. 3, p. 31
2. Zaynabidinov S., Daliev H., Atamuratov A.E. Low temperature annealing influence to the Si-SiO<sub>2</sub> interface states densities of MOSFETs. *Doclady Physics*.1992, No.1, p.24.
3. Atamuratov A.E., Zainabidinov S., Yusupov A., Daliev H.S., Adinaev K. Influence of surface states generated at the Si-SiO<sub>2</sub> interface to the MOSFET leakage current. *Tech. Phys. Lett.* Vol. 21, No.21, 79 (1995)
4. Atamuratov A.E., Zainabidinov S., Daliev H.S., Yusupov A., Adinaev K. Effect of thermal-field treatment and ionizing radiation on the energy spectrum of Si-SiO<sub>2</sub> interface states of a MOSFET. *Tech. Phys.* Vol. 42, No.9, pp. 1106-1107 (1997)
5. Zainabidinov S., Atamuratov A.E., Yusupov A., Adinaev K. Ionizing Radiations and annealing influence on MOSFET charge states. *Tr. J. of Physics*, V.23, No. 3, 1999, p.485.
6. Atamuratov A.E., Yusupov A., Adinaev K. Experimental Assesment of the Nonuniform Radiation – Induced Space – Charge Distribution in the Surface Region of Silicon. *Inorganic Materials*, 2001, Vol. 37, No. 8, p.767.
7. Atamuratov A.E., Yusupov A., Aminov U.A. Influence of a high energy Bremsstrahlung and heat treatment on parameters of the MOSFET. *Informations of Higher Educational establishments. An electron technology materials*, 2003, No.4, p. 54-56 (in Russian).
15. A.E. Atamuratov. Influence of the high-energy bremsstrahlung on field transistor threshold voltage. *Uzbek Journal of Physics*, 2003, V.5(№5-6), pp.356-358.
8. A.E. Atamuratov, H.-H. Wehmann. Determination of the longitudinal charge distribution at the Si-SiO<sub>2</sub> interface of MOSFET by C-V measurements; *Materials of Second International Conference “Fundamental and Applied Problems of Physics”*, Tashkent (2004), p.222-224 .
9. A. E. Atamuratov, A. Yusupov, K. Babajanov . Distribution of surface carrier concentration in the cylindrical MOSFET with the built-in charge in oxide layer. *Materials of Republican conference on Physical Electronics*, Tashkent, November 2-4 (2005), p. 48 (in Russian).
10. A. E. Atamuratov, Charulata Barge, H.-H Wehmann. Features of the charged area image on a SiO<sub>2</sub> surface. *Materials of Conference “Fundamental and Applied Problems of Physics”*, Tashkent (2006), p. 146-148.
11. A. E. Atamuratov, D. U. Matrasulov, and P. K. Khabibullaev. Detection of a Charge Built in Oxide Layer of a Metal-Oxide-Semiconductor Field-Effect Transistor by Lateral C- V Measurement. *Doklady Physics*, 2007, Vol. 52, No. 6, pp. 322–325.
12. A.E. Atamuratov. Modeling of quantum wires in the interface layer of the semiconductor-oxide structures with charge built in oxide. *Complex Phenomena in Nanoscale Systems. NATO Science for Peace and Security Series-B:Physics and Biophysics. Proceedings of the NATO Advanced Research Workshop on Recent Advances in Nonlinear*

Dynamics and Complex System Physics; From natural to Social Sciences and Security.

Tashkent, Uzbekistan, 12-17 October 2008, p.229-237.

**13.** A. N. Georgobiani , A. E. Atamuratov , U. A. Aminov , and T. A. Atamuratov. Tunable SiO<sub>2</sub>/Si-Based Nanostructures. *Inorganic Materials*, 2009, Vol. 45, No. 8, pp. 900–904.

**14.** A. E. Atamuratov, D. Yu. Matrasulov, and P. K. Khabibullaev. Influence of the Field of the Built\_in Oxide Charge on the Lateral C–V Dependence of the MOSFET.

*Doklady Physics*, 2010, Vol. 55, No. 2, pp. 52–54.

**15.** J. D. Wei, S. F. Li, A. Atamuratov, H.-H. Wehmann, and A. Waag . Photoassisted Kelvin probe force microscopy at GaN surfaces: The role of polarity. *Appl. Phys. Lett.* **97**, 172111 (2010).

**16.** A.E. Atamuratov, R. Granzner , M. Kittler, Z. Atamuratova, M. Halillaev, F. Schwierz . Simulation of Random Telegraph Noise in nanometer nMOSFET induced by interface and oxide trapped charge. NATO Advanced Research Workshop on Low Dimensional Functional Materials, October 15-19, 2012, Tashkent

**17.** A.E. Atamuratov , Z. Atamuratova, M. Halillaev, G. Ghione. Simulation of carrier distribution in nanometer MNOSFET with single charge trapped in oxide and at SiO<sub>2</sub> – Si<sub>3</sub>N<sub>4</sub> interface. Materials of International conference Low dimensional nanoscale systems: quantum effects, particle transport and advanced materials. November 6-7,2012, Tashkent.

**18.** Matyakubov H., Atamuratova Z. A., Abdikarimov A., Halillaev M., Atamuratov A.E. The method of estimation of single trapped charge position in nanometer MNOSFET oxide layer and Si-SiO<sub>2</sub> interface. Materials of International conference Fundamental and Applied Problems of Physics November 14-16,2013, Tashkent.

**19.** A. Abdikarimov, G.Indalecio, E. Comesana, N. Seoane, K. Kalna, A.J. Garcia-Lourero, A. E. Atamuratov. Influence of device geometry on electrical characteristics of a 10.7 nm SOI-FINFET.in 17<sup>th</sup> International Workshop on Computational Electronics. IWCE 2014. pp.1-4. [Online]. Available:

<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?reload=true&arnumber=6865877>

**20.** A.E.Atamuratov, U.A.Aminov, Z.A. Atamuratova, M. Halillaev, A. Abdikarimov , H. Matyakubov. The lateral capacitance of nanometer MNOSFET with a single charge trapped in oxide layer or at SiO<sub>2</sub> - Si<sub>3</sub>N<sub>4</sub> interface. *Nanosystems: physics, chemistry, mathematics*, 2015, 6 (6), p. 837–842

**21.**A.E. Atamuratov, A. Abdikarimov, M. Khalilloev, Z. A. Atamuratova , R. Rahmanov, A. Garcia-Loureiro, A. Yusupov, Simulation study of dibl effect in 25 nm soi-finfet with the different body shape, *Nanosystems: Physics, Chemistry, Mathematics*, 2017. 8 (1), p. 71–74

**22.**A.Abdikarimov , A.E. Atamuratov, A. Yusupov , Simulation study of subthreshold slope in 25 nm SOI-FinFET with the different body shape. Simulation of DIBL effect in junctionless SOI MOSFETs with extended gate. *Doclady Uzb Academy* N 3, p.20-22, 2017.

**23.**A. E. Atamuratov, , M. Khalilloev, , A. Abdikarimov, , Z.A. Atamuratova, M. Kittler, R. Granzner, F. Schwierz, Influence of non-uniform lateral interface defects distribution to the

current-voltage characteristic of MOSFET .Nanosystems: physics, chemistry, mathematics, 2017, 8 (1), p. 75–78.

**24.** Atamuratov A.E., Abdikarimov A., Atamuratova Z.A., Xolillaev M., Yusupov A. Collection of papers (Urgench state university). Actual problems of modern science, education and training in the region 8-12 page, N1, 2017

**25.** A.E. Atamuratov, Z.A. Atamuratova, A. Yusupov, A. Ghani,. Characterising lateral capacitance of MNOSFET with localised trapped charge in nitride layer. Results in Physics, V.11, 2018, pp. 656–658..

**26.** Abdikarimov A.E., Yusupov A., Atamuratov A.E. Influence of the body shape and thickness of buried oxide to DIBL effect of SOI FinFET. “Technical Physics letters”, 2018, v44, N21, pp.22-28

**27.** Z. A. Atamuratova, A. Yusupov, B. O. Khalikberdiev, and A. E. Atamuratov Anomalous Behavior of Lateral C–V Characteristic of an MNOS Transistor with an Embedded Local Charge in the Nitride Layer. Technical Physics, 2019, Vol. 64, No. 7, pp. 1006–1009.

**28.** Atabek E. Atamuratov 1, Mahkam M. Khalilloev, Ahmed Yusupov, A. J. Garcia-Loureiro, Jean Chamberlain Chedjou and Kyamakya Kyandoghère. Contribution to the Physical Modelling of Single Charged Defects Causing the Random Telegraph Noise in Junctionless FinFET. Appl. Sci. 2020, 10(15), 5327; doi:10.3390/app10155327

**29.** Ahmed Yusupov, Atabek E. Atamuratov, Azamat E. Abdikarimov, Jean Chamberlain Chedjou and Kyandoghère Kyamakya. The amplitude of RTN in nanometer SOI FinFET with different channel shape. World Scientific Proceedings Series on Computer Engineering and Information Science Developments of Artificial Intelligence Technologies in Computation and Robotics, pp. 1541-1548 (2020).

**30.** Atabek E. Atamuratov, Ahmed Yusupov, Zukhra A. Atamuratova, Jean Chamberlain Chedjou and Kyamakya Kyandoghère. Lateral Capacitance–Voltage Method of NanoMOSFET for Detecting the Hot Carrier Injection. Appl. Sci. 2020, 10(21), 7935; doi:10.3390/app10217935