

Head of Department:

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The "Electronics and radiotechnics" department was established in 2013 based on the merger of the "Electronics and circuit engineering" and "Radiotechnics and radio communication" departments. In 2013-2014, the department was headed by Doctor of Physics and Mathematics, Professor H.K. Aripov, in 2014-2016, Candidate of Technical Sciences I.R. Faziljanov, in 2016-2021, Candidate of Technical Sciences (PhD), Professor A.A. Tulyaganov, and from September 2021, Candidate of Technical Sciences, Professor A.Kh. Sattarov is the director.

The Department of "Electronics and Circuit Engineering" was established in 1969 on the basis of the department of radio receivers, the current Department of Mobile Communication Systems. In 1969-1972, candidate of technical sciences, docent Ye.N. Fakhrutdinov, in 1972-1981, candidate of physical-mathematical sciences, docent I.S. Andreev, in 1981-1986, candidate of physical-mathematical sciences, docent N.Yu.Yunusov, in 1986-1988, academic of UzFA, doctor of physical-mathematical sciences, professor M.S. Yunusovlar, and in 1988-2013, doctor of physical-mathematical sciences, professor H.K. Aripov were the directors. In different periods, professor A.Kh. Kasimov, docents: L.A. Vvedenskaya, A.G. Vishnevetsky, I.S. Andreev, N. Balaban, I.A. Kildeev, A.M. Abdullaev, H.Kh. Takhirjanov, N.Yu. Yunusov, A.A. Tulyaganov, Yu. Abdurakhmanov, Kh.Kh. Bustonov, Ye.V. Obedkov, Sh.Z. Tadjibaev, N.B. Alimova, senior teachers: R.I. Mansurov, O.R. Rikhsimboev, Yu.P. Vaulina, Ye.G. Glininnaya, G.N. Kuzmina, G.N. Sepenok, V.Z. Pyataev, I.A. Karsevich, G.V. Kornilseva, R.K. Atametov, G.J. Akhmedova, D.M. Mirkhabibova, D.S. Irgashev assistants: N.M. Latipova, N.V. Yusupova, M.R. Alimova, N.R. Umarova, T.M. Ismailov, B.Sh. Usmanovlar, G.Kh. Juraeva, Sh.T. Toshmatov, A.A. Yadgarova, A. Ya. Ashurov, S.D. Artikbaev, A.K. Ataniyazov, Ya.T. Yusupov, N.T. Khaitov and others worked.

Based on the reorganization and naming of the department under the name "Theoretical Foundations of Radiotechnics" established in 1960, in the 1964-1965 academic year as the "Theory of Signal Transmission and Theory of Nonlinear Electric Circuits" department, and from the 2003-2004 academic year, In accordance with the curriculum, the courses of study began to be conducted under the name "Radiotechnics and radio communication". In 1960-1964, senior teacher V.A. Chernousov, in 1964-1978 candidate of technical sciences, docent G.Ya. Lyakhovesky, in 1978-1993 candidate of technical sciences, docent A.A. Kropivnitsky, in 1993-1997 candidate of technical sciences, docent S.Kh. Sidikov were head of department.

At different times, docents at the department: B.N. Vorotinson, M.A. Mendelssohn, V.I. Lutin, N.N. Gultoraev, candidate of technical sciences V.A. Pak, candidate of technical sciences A.A. Yarmukhamedov, senior teachers: V.K. Shteyn, Ye.T. Avilkina, Ya.T. Yusupov, assistants: Ye.T. Jalolova (Kravchenko), A.A. Savchuk, Yu.I. Kulebyakin, O.M. Kurbanov, A.A. Kovalenko, O.G. Shatskaya, N.V. Bochkaeva, L.A. Buchok, K.B. Boymurodov and others worked.

In the 2003-2004 academic year, the department was named "Radiotechnics and radio communication". During this period, the head of the department was docent Abduazizov A.A. senior teachers I.R. Faziljanov, A.A. Yarmukhamedov, N.V. Grinyuk, H.Kh. Shoyusupova, U.Sh. Sabirova, I. A. Savisky, I.V. The Koralevas were active.

At present, the department "Electronics and Radiotechnics" has: the head of the department - candidate of technical sciences, professor A.Kh. Sattarov; Ph.D., Professor A. Yusupov; Ph.D., docent H.S. Soatov; Ph.D., docent I.R. Faziljanov. Senior teachers: Kh.Kh. Shoyusupova, U.Sh. Sabirova, D.A. Arziev, M.P.

Egamberdiev, N.A. Ragachurina (Yadgarova), S.A. Azizova, O.Kh. Nushtaeva, Sh.Q. Kholmonov, L.E. Baijonova, V.A. Gazieva, assistants: T.U. Nurmukhamedova, K.I. Foziljanov, M.M. Yusupova, K.T. Dadamatova, A.Kh. Abdullaev, H.N, N.A. Musajanova, T.M. Toirov, are active.

Courses are conducted to students in the following fields of the bachelor's degree:

- Radio and mobile communication
- Telecommunication technologies
- Television technologies
- Vocational education in ICT
- Computer engineering (Computer engineering, IT service, multimedia technologies)
- Information security
- Software engineering
- Economics and management in the field of information communication technologies
- Technology of postal communication

Teachers of the department:

- Sattarov A.Kh. - head of the department, candidate of technical sciences., professor
- Yusupov A. - Ph.D., Professor
- Soatov H.S. - candidate of technical sciences., docent
- Faziljanov I.R. - candidate of technical sciences., docent
- Shoyusupova Kh.Kh. - senior teacher
- Sobirova U.Sh. - senior teacher
- Arziyev D.A. - senior teacher
- Egamberdiev MP - senior teacher
- Ragachurina (Yadgarova) N.A. - senior teacher
- Azizova S.A. - senior teacher
- Nushtaeva O.Kh. - senior teacher
- Kholmonov Sh.Q. - senior teacher
- Bayjonova L.E. - senior teacher
- Gazieva V.A. - senior teacher
- Nurmukhamedova T.U. - assistant
- Faziljanov Kh.I. - assistant
- Yusupova M.M. - assistant
- Dadamatova K.T. - assistant
- Abdullaev A.Kh. - assistant
- Musajanova N.A. - assistant

List of state and foreign grants (fundamental, practical and innovative projects) executed at the department:

- "Study of Self Heating Effect on stacked Nanosheet Field Effect Transistor", - 2020-2022, Yusupov A.Yu. - project manager.
- UNICAC - knowledge transfer network in Central Asia and China - 2019-2022 Yusupov A.Yu. - project manager.

Methodical manuals published by the department in the 2021-2022 academic year

- Methodical manual for laboratory work in the discipline "Electronics and circuits1" Teshaboyev H.N., Abdullayev A.Kh., Nurmukhamedova T.U., Egamberdiyev M.P., Musadjanova N.A.,

- Methodical manual for laboratory work in the discipline "Introduction to the design of digital devices" Teshaboev H.N., Abdullaev A.Kh., Nurmukhamedova T.U., Kholmonov Sh.Q., Musadjanova N.A.,
- Methodical manual "For independent work on subjects taught at the Department of Electronics and Radiotechnics" Sattarov K.A., Shoyusupova Kh.Kh., Sabirova U.Sh.
- Electronic methodical manual "Electronic laboratory work set from introduction to the design of digital devices" Shoyusupova Kh.Kh., Azizova S.A.,
- Methodical manual for laboratory works in the subject "Electronics and circuits 2" (for external and second higher education students) Shoyusupova Kh.Kh., Kholmonov Sh.Q., Alimjonov B.A.

ethodical instructions published by the department in the 2021-2022 academic year.

- Methodical instructions for laboratory work in the subject "Electronics and Circuits 1" (for external students); Sattarov Kh.A., Kholmonov Sh.Q., Alimjonov B.A.
- Methodical instruction for laboratory exercise in the theory of electrical chain; Tulyaganova V.A., Gazieva V.A., Ulashov S.R.
- Methodical instruction for practical exercise in the theory of electrical chain; Tulyaganova V.A., Gazieva V.A.

Articles in "scopus" and "web of science" in scientific journals in the 2021-2022 academic year:

- Aripova Z.Kh., Aripov Kh.K., Toshmatov Sh. T. "Composite Cascode Injection-Voltaic Transistor". ICISCT 2021, International Conference on Information Science and Communications Technologies: Applications, Trends and Opportunities November 3-5, 2021
- Aripov Kh.K., Aripova Z.Kh., Toshmatov Sh. T. "Cascode Photoconverter With Amplifier". ICISCT 2021 International Conference on Information Science and Communications Technologies: Applications, Trends and Opportunities November 3-5, 2021
- Aripov Kh.K., Aripova Z.Kh., Toshmatov Sh. T. Complementary Cascode Current Source. ICISCT 2021 International Conference on Information Science and Communications Technologies: Applications, Trends and Opportunities November 3-5, 2021
- Sattarov X.A., Increasing the metrological reliability of the fiber-optic information-measuring system for monitoring the magnetic field due to the method of software engineering. 2021 International Conference on Electrotechnical Complexes and Systems (ICOECS). Ufa, Russia - 2021.
- Sattarov X.A., Organization of video surveillance at railway crossings. ICISCT 2021 International Conference on Information Science and Communications Technologies: Applications, Trends and Opportunities. November 3-5, 2021
- Sattarov X.A., Abdumalikov A. Equipment and software for energy supply monitoring and control process. ICISCT 2021 International Conference on Information Science and Communications Technologies: Applications, Trends and Opportunities. November 3-5, 2021
- Yusupov A. "Impact of the channel shape, back oxide and gate oxide layers on self-heating in nanoscale JL FINFET". Journal "Nanosystems: Phys. Chem. Math.", 2022, 13 (2), 148-155.
- Yusupov A. Capacitance Method for Identifying Degradation due to Electrical Stress in MOSFETs. e-Journal of Surface Science and Nanotechnology. e-Journal of Surface Science and Nanotechnology 20, (2022).
- Yusupov A. The contribution of gate and drain voltages to temperature distribution along the channel in 2D MoS2 based MOSFET. ICISCT 2021 International Conference on Information Science and Communications Technologies: Applications, Trends and Opportunities. November 3-5, 2021
- Foziljanov Kh.I. Study of the spectrum of side electromagnetic radiations of video interface dvi. ICISCT 2021 International Conference on Information Science and Communications Technologies: Applications, Trends and Opportunities. November 3-5, 2021
- Narkulov H.Yu., Sabirova U.Sh., Shoyusupova H.Kh., Arziev D.A. Development of an Optimal Method for the Design of Electronic Devices, Taking into Account the EMC. Design Engineering, 2021 Issue: 9

| Pages: 3269-3272

- Nushtaeva O.Kh., Bayzhanova L.E. Analysis of methods of transmission to urban networks with the use of fiber-optic transmission systems. Turkish Journal of Physiotherapy and Rehabilitation; 32(3), 2021
- Gazieva V.A. Manage rfid access to items on the internet. Journal of Management Information and Decision Sciences. December 2021
- Abdullaev A.Kh. Nonlinear strain of a current-conducting annular plate in a magnetic field. AIP Conference Proceedings. Volume 2467, Issue 1. USA, 2022. -P. 060026-1-6
<https://doi.org/10.1063/5.0092485>
- Kholmonov Sh.Q., Nurmukhamedova T.U., Today's achievements of modern intelligent robots International Journal of Health Sciences. Volume 6, Issue (S3). -P. 8678-8680.
<https://doi.org/10.53730/ijhs.v6nS3.8092>
- Tulyaganova V.A., Azizova S.A. Frequently controlled vibratory electric drive's static stability condition. Journal of Vibration and Control JVC 04-22-15
- Gazieva V.A. Improving input control based on non-contact id card reading technology. International Journal of Mechanical Engineering. (ISSN: 0974-5823)
- Gazieva V.A. Development of input control system based on contact ID card reading technology. AIP Conference Proceedings.

Articles in international scientific journals in the 2021-2022 academic year.

- Aripov Kh.K., Aripova Z.Kh., Toshmatov Sh.T. Composite cascade injection-voltaic transistor. ENGINEERING PHYSICS №12. 2021.
- Aripov Kh.K., Aripova Z.Kh., Toshmatov Sh.T. Cascade photoconverter with amplification DEVICES 6 AND SYSTEMS. MANAGEMENT, CONTROL, DIAGNOSIS. 2021. №. 12
- Sattarov Kh.A. Issues of calculating the magnetic circuit of current converters for devices of electric transport power supply systems. Scientific information collection "TRANSPORT: science, technology, management". Moscow - 2021. No. 3. DOI: 10.36535/0236-1914-2021-03-12
- Narkulov Kh.Yu., Arziev D.A. Prospects for the development of radio electronic systems of the armed forces of foreign countries. International Journal of Advanced Research in IT and Engineering. Vol. 10, №11, Nov 2021
- Sabirova U.Sh., Shoyusupova Kh.Kh. Computer-aided design radio equipment assemblies for emc. ACADEMICIA An International Multidisciplinary Research Journal. Vol. 11, Issue 10, October 2021
- Yusupov A. The effect is based on self-heating and nonconductive vertical pole transistors with a base structure of silicon and insulators of various shapes. Letter in JTF, 2021, Vol. 47, №11
- Sattarov K.A. The main requirements of cloud computing monitoring for primary measuring converters of the power supply system with specific loads. Bulletin of KazATK, №1(120), 2022. C.-106-110
- Sattarov Kh.A. Development of a mathematical model of a current converter with nonlinear magnetic resistance. International Journal of Advanced Logistics, Transport and Engineering. March 28, 2022, pp. 1-9
- Abdullaev A.Kh. Simulation of magnetoelastic deformation of a plate in an alternating magnetic field ISJ Theoretical & Applied Science, 01(105) Philadelphia, USA, 2022. -P. 751-755.
<http://s-o-i.org/1.1/TAS> <http://dx.doi.org/10.15863/TAS>
- Kholmonov Sh.Q., Nurmukhamedova T.U. Distance learning and remote laboratory in an engineering education. Journal of New Century Innovations. Volume - 4, Issue-1_May_2022. -P. 45-52.
- Azizova S.A. Credit module system in Uzbekistan. International Journal of Advanced Research in Management and Social Sciences ISSN: 2278-6236, Vol. 11 | No. 1 | January 2022. P. 28-30.
garph.co.uk/
- Ulashov S.R. The use of information technologies in military higher education: doing individual tasks online. International scientific and educational electronic magazine " EDUCATION AND SCIENCE IN

THE XXI CENTURY " (ISSN 2782-4365)

- Tulyaganova V.A., Gazieva V.A. Study of the characteristics of nonlinear elements and their influence on the operating modes of electromagnetic vibration exciters. Scientific Journal of Academic Research in Educational Sciences
- Faziljanov I.R., Faziljanov Kh.I. The State of the Economic Aspect of the Introduction of Digital Broadcasting in the Republic of Uzbekistan. International journal of special education. Vol.37, No.3 (No. 3(37)). 2022
- Faziljanov I.R., Faziljanov Kh.I. Research of the amplitude-frequency characteristics of a quasi complementary emitter follower on three-structural injection-voltaic transistors. European Science Review Scientific journal. 2022 №. 3-4 (March-April)

Articles in hcc recognized scientific journals on the level of the republic in the 2021-2022 academic year.

- Sattarov Kh.A Static characteristics of primary current converters of specific loads. Journal "Problems of Energy and Resource Saving". Tashkent - 2021. Special number.
- Sattarov K.A. Modern condition and classification of large current transformers. Scientific-practical and informative-analytical magazine "Descendants of Mukhammad al-Khorazmi", №. 1(19)/2022. - B. 118-121
- Faziljanov IR, Foziljonov Kh.I. Investigation of the spectrum of spurious electromagnetic radiation of the DVI video interface. Mukhammad al-Khorazmi descendants 4/(18), 2021. -C. 84-87.
<http://alxorazmiy.uz>
- Faziljanov I.R., Faziljonov Kh.I. Complementary emitter repeater and three-structure injection-voltaic transistor. Information Communications: Networks, Technologies, Solutions 2(58), 2021
- Gazieva V.A. Development of effective system authentication and access control using RFID. Descendants of Mukhammad al-Khorazmi 3/(17), 2021 <http://alxorazmiy.uz>
- Kholmonov Sh.Q., Nurmukhamedova T.U., Teshaboev Kh.N., Musadjanova N.A. Remote laboratories and technologies of a remote learning experiment in a technical university "Descendants of Mukhammad al-Khorazmi" scientific-practical and informative-analytical magazine, 2(20), 2022, <http://alxorazmiy.uz>
- Gazieva V.A. Development of effective system authentication and access control. RFID scientific-practical and informative-analytical magazine "Descendants of Mukhammad al-Khorazmi" 3(17)2021
- Gazieva V.A. Control with access RFID in the internet-things. Scientific-practical and informative-analytical magazine "Descendants of Mukhammad al-Khorazmi" 1(19)/2021
- Sabirova U. Method of improving the use of radio frequency spectrum in mobile radio communication systems "Scientific-practical and information-analytical journal "Descendants of Mukhammad al-Khorazmi" 2(20)/2022
- Shoyusupova H.Kh. Methods of protection of modern radio receiver devices Scientific-practical and informative -analytical magazine "Descendants of Mukhammad al-Khorazmi" 2(20)/2022
- Bayjanova L.E. About classes QoS multimedia network connection. Journal " RESOURCES OF SCIENCE " Urganch-4.2022, pp. 40-48.
- Bayjanova L.E., Nushtaeva O.Kh. FEATURES AND AREAS JF APPLICATION OF PLASTIC OPTICAL FIBER " RESOURCES OF SCIENCE " magazine. Urganch, 3.2022, pp. 193-195.
- Musajanova N.A. Evaluation of the quality of the depth image for the synthesis of the view based on the similarity of the weighted faces "Engineering-economy institute of Karshi innovative technologies" scientific journal.

Patents received for invention in the 2021-2022 academic year.

- Sattarov Kh.A., Azimov R., Siddikov I., Khujamatov Kh., Khasanov D. Converter that can change current into voltage. IAP 06646
- Toshmatov Sh.T., Aripova Z.Kh., Khayrullaev Kh.Kh., Cascade resource of current. IAP 06698