Annual Report of Functional Analysis department for 2024

The staff of "Functional Analysis" department consists of 21 employees including 23 research associates. 11 of them doctor of sciences, professor.

1. Aslanov Hamidulla I. doct. ph.m.s.,prof. head of department
2. Mammed Bayramoglu. doct. ph.m.s.,prof.sen.r.a.
3. Aliyev Soltan A. doct. ph.m.s.,prof.sen.r.a.
4. Mirzoyev Sabir S. doct. ph.m.s.,prof.sen.r.a.
5. Huseynov Hidayet M. doct. ph.m.s.,prof.sen.r.a.
6. Kurbanov Veli M. doct. ph.m.s.,prof.sen.r.a.
7. Nabiyev Ibrahim M. doct. ph.m.s.,prof.sen.r.a.
8. Aliyev Araz R. doct.m.s.,prof.sen.r.a.
9. Eyvazov Elsad H. doct.m.s.,prof. sen.r.a.
10. Mustafayev Heybətkulu S. doct. ph.m.s.,prof.sen.r.a.
11. Aslanova Nigar M. doct.m.s.,prof. sen.r.a.
12. Mukhtarov Fekhreddin Sh. c.ph.m.s.,ass.prof.,lead.r.a.
13. Jabrailova Afet N. c.ph.m.s.,ass.prof.,lead.r.a.
14. Latifova Aygun R. phd in math.,chief.r.a.
15. Khalilov Vuqar S. phd in math.,ass.prof.,lead.r.a.
16. İbadova İrada A. c.ph.m.s.,ass.prof.,lead.r.a.
17. Guliyev Namiq I. c.ph.m.s.,lead.r.a.
18. Vahabov Nazim G. chief.r.a.
19. Alimardanova Kamilla A. c.ph.m.s.,chief. r.a.
20. Osmanli Jalala A. phd in math.,chief. r.a.
21. Safarova Aynur N. phd in math.,chief. r.a.
22. Iskenderli Guller Z.sen.lab.ass.
23. Bayramova Aygun F.sen.lab.ass.

I. Scientific part.

In 2024, in the department, according to the afformed plan 19 scientific works are carried out on "Spectral analysis of differential operators".

Theme "Spectral analysis of differential operators".

1)work: "On the spectral properties of the boundary value problem for differential operators with two discontinuities where the spectral parameter enters the boundary condition." Ex. doct.ph.m.s., prof. H.I.Aslanov.

On the spectral properties of boundary value problems for differential operators with two discontinuities in which the spectral parameter is included in the boundary condition $[0, h_1) \cup (h_1, h_2) \cup (h_2, \pi)$ with delayed arguments

$$y''(x) + q(x)y(x - \Delta x) + \lambda y(x) = 0$$

of the differential equation

$$y(0) = \cos \alpha + y' \sin \alpha = 0$$

$$\sqrt{\pi} y(\pi) \cos \beta + y'(\pi) \sin \beta = 0$$

within the boundary conditions and at the discontinuities

$$y(h_1 - 0) - \delta y(h_1 + 0) = 0$$

$$y'(h_1 - 0) - \delta y(h_1 + 0) = 0$$

$$y(h_2 - 0) - \gamma y(h_2 + 0) = 0$$

$$y'(h_2 - 0) - \gamma y(h_2 + 0) = 0$$

the spectral issue is considered.

A theorem has been proven on the existence of only simple eigenvalues of the problem under consideration, and it has also been proven that the eigenvalues form a positive sequence with a limit point at infinity.

2)work: "Inverse spectral for the Sturum-Liouville equation with shear coefficient." Ex: doct.ph.m.s.,prof. sen.re.a. H.M.Huseynov.

1.H.M.Huseynov " Inverse problem for the system of Dirac-type equations with discontinuous coefficients" Trans.Natl. Acad.Sci.Azerb.Ser.Phys.-Tech.Math.Sci.Mathematics, 44, 00-00(2024) p.79-82

2. H.M.Huseynov, J.A.Osmanly, "On the solution of an equation with a spectral parameter in the discontinuity condition." Modern Problems of Mathe-matics and Mechanics, XI International Conference dedicated to the memory of the genius Azerbaijani scientis and thinker Nasireddin Tusi, Baku, 03-06 July, 2024, p. 251 2.

3.H.M.Huseynov, A.R.Latifova, J.A.Osmanly "Direct and inverse scattering problems for a discontinuous coefficient Sturm-Liouville equation on a semi-axis." Modern Problems of Mathematics and their applications,International Conference, June 20-22, 2024, Baku, Azerbaijan

3)work: "A bound for branching stochastic processes with truncated parameters issues." Ex:doct.ph.m.s., prof. sen.re.a. S.A. Aliyev.

1.Aliyev S, Lysetskyi.T, Yeleyko Y. Stochastic additive functional of multi type age-dependent branching Processes. Transactions of National Academy of Sciences of Azerb., ser.of Physical-Tech.and mathem.sciens. mat44(4) p.67-76, 2024

2.S.A.Aliyev,I.A.Ibadova "On convergence of age-dependent branching process with emigration"Int.Conf. "Modern problems of Math. and Mechan."Baku,2024,

3. Aliyev S., Khalilov V.S. On convergence of Bellman Harris processes to continuous state space branching process, XXXIX Int.Conferens "PDMU-2024", Czech.Republic, Brno, p.14-15

4. Aliyev S, Lysetskyi.T, Yeleyko Y. Stochastic additive functional of multi type age-dependent branching processes, XXXIX Int.Conf.,"PDMU-2024",Czech.Republic, Brno, p.16

4)work: "The cardinality criterion of the system of eigen and connected functions of the second order differential operator with summable matrix coefficients." Ex:doct.ph.m.s., prof. sen.re.a. V.M.Kurbanov.
1.V.M. Kurbanov, E.J. Ibadov. On the properties of the systems of root vector functions of Dirac-type operator with summable potential. // Operators and Matrix 2024, vol 18, №1, p.235-256.
2. V.M. Kurbanov, E.J. Ibadov. On Riesz property and equivalent basis property of the system of root vector functions of Dirac-type operator. //Trans.Natl.Acad.Sci.Azerb.Ser.phys.-Tech.Math.Sci., Mathematics,44(1), 51-62 (2024).
3.Курбанов В.М., Буксаева Л.З. Теорема о равномерной равносходимости для разрывного оператора Дирака с потенциалом из Lp(0, 2π), p > 2. Воронежский государственный университет Московский государственный университет им. М. В. Ломоносова Математический институт им. В. А. Стеклова РАН Научно-образовательный математический центр Северо-Осетинского государственного университета им. К. Л. Хетагурова АО «Концерн «Созвездие» СОВРЕМЕННЫЕ МЕТОДЫ ТЕОРИИ КРАЕВЫХ ЗАДАЧ. ПОНТРЯГИНСКИЕ ЧТЕНИЯ — XXXV Материалы Международной Воронежской весенней математической школы (26–30 апреля 2024 г.) с.207-209
4. Курбанов В.М., Годжаева Х.Р Воронежский государственный университет Московский государственный университет им. М. В. Ломоносова

Математический институт им. В. А. Стеклова РАН Научно-образовательный математический центр Северо-Осетинского государственного университета им. К. Л. Хетагурова АО «Концерн «Созвездие» СОВРЕМЕННЫЕ МЕТОДЫ ТЕОРИИ КРАЕВЫХ ЗАДАЧ. ПОНТРЯГИНСКИЕ ЧТЕНИЯ — XXXV Материалы Международной Воронежской весенней математической школы (26–30 апреля 2024 г.) с.209-211

5. V.M. Kurbanov, A.I.Ismailova On absolute and uniform convergence of spectral expansion in eigen - functions of Dirac operator , Modern Problems of Mathematics and Mechanics Abstracts of the XI İnternational Conference dedicated to the memory of the genius Azerbaijani scientist and thinker Nasireddin Tusi. p.255-257

5)work: "On the completeness of eigen and adjoint elements of a class of three-order quasielliptic operator sets."
 Ex: doct.ph.m.s.,prof. sen.re.a. S.S.Mirzoyev.
6)work: "Recovery of the differential operator whose boundary condition linearly includes the spectral parameter."
 Ex: doct.ph.m.s., prof. sen.re.a. I.M.Nabiyev.

1. L.I. Mammadova, I.M. Nabiev. Solvability of the inverse spectral problem for Sturm-Liouville operator with spectral parameter in the boundary condition // Baku Mathematical Journal, 2024, 3(1), 12-23. https://doi.org/10.32010/j.bmj.2024.02

2. I.M. Nabiev, L.I. Mammadova, A.J. Bakirova. Some spectral properties of a bundle of differential operators on an interval / 4th International Conference on Innovative Academic Studies (ICIAS) – 12-13 March 2024 – Konya, Turkey. Abstract Book, p. 331.

https://drive.google.com/file/d/1byJmM79hmUR0xTJ1pxYK7MavjoQu93dg/view

3. İ.M. Nəbiyev, L.İ. Məmmədova, A.C. Bəkirova. Sərhəd şərtində spektral parametr olan diffuziya operatorunun bərpasi haqqinda / Ümummilli Lider H. Əliyevin anadan olmasının 101-ci ildönümünə həsr edilmiş Beyn. elmi-prak. konf. mater., Bakı, 16 may 2024, Biznes Univ. nəşr., s. 215-217.

4. I.M. Nabiev, G.S. Mammedzadeh. Solvability of the inverse problem for differ ential operator with spectral parameter in the boundary condition / International Conference on Modern Problems of Mathematics, Mechanics and their Applications, June 20-22, 2024, Baku, Azerbaijan, Abstract Book, p. 65-66. https://mpmma.azmiu.edu.az/committiee/

5. I.M. Nabiev, L.I. Mammadova On the solvability of the inverse spectral prob

lem for Sturm-Liouville operator with a spectral parameter square including the boundary condition / Abstracts of the XI Int. conf. "Modern Problems of Mathematics and Mechanics" dedicated to the memory of a genus Azerbaijani scientist and thinker Nasireddin Tusi, July 03-06, 2024, Baku/ Azerbaijan, p. 263-265.

https://mpmm.imm.az/pages/abstracts

7)work: "On the sum of negative eigenvalues of the three-dimensional Schrödinger operator." Ex: doct.m.s., prof. sen.re.a. A.R.Aliyev, doct.m.s., prof. sen.re.a. E. H. Eyvazov

1. Aliev A.R., Eyvazov E.H. On the sum of negative eigenvalues of the three-dimensional Schrödinger operator // **Mathematical Notes**, 2024, vol. 115, no. 2, pp. 142–147. (**Web of Science Core Collection, SCIE - Q3; Scopus - Q2**)
https://link.springer.com/article/10.1134/S0001434624010139
2. Aliev A.R., Aliev R.A. On the boundedness of the fractional maximal operator, the Riesz potential, and their commutators in Orlicz spaces // **Mathematical Notes**, 2024, vol. 115, no. 4, pp. 453–462. (**Web of Science Core Collection, SCIE - Q3; Scopus - Q2**)
https://link.springer.com/article/10.1134/S0001434624030180
3. Aliev A.R., Eyvazov E.H. Spectral shift function and eigenvalues of the perturbed operator // **Journal of Mathematical Sciences (United States)**, 2024, vol. 282, no. 4, pp. 464–472. (**Scopus - Q3**)
https://link.springer.com/article/10.1007/s10958-024-07191-0
4. Aliev A.R., Eyvazov E.H. On the asymptotics of eigenvalues of the Neumann problem for the Schrödinger operator // **Baku Mathematical Journal**, 2024, vol. 3, no. 1, pp. 11. (**zbMATH Open**)
https://www.bakumathj.org/index.php/editorial-team/uncategorised/volume-3-issue-1-special-issue
5. Khalilov E.H., Aliev A.R., Musayev A.M. Investigation of the approximate solution of one class of curvilinear integral equations by the projection method // Ukrains'kyi Matematychnyi Zhurnal, 2024, vol. 76, no. 10, p.p. 1543–1564. (**Web of Science Core Collection, SCIE - Q3; Scopus - Q3**)
https://umj.imath.kiev.ua/index.php/umj/article/view/7762
6. Aliev A.R., Eyniyev R. Fuzzy Markov process for determining the rarity of rewards in rooms in roguelike games // Lecture Notes in Networks and Systems, 2024, vol. 1141, p.p. 154–161. (Scopus - Q4)
https://link.springer.com/chapter/10.1007/978-3-031-76283-3_22
7. Aliev A.R. About one issue of solvability of two classes of fourth-order operator-differential equations / Book of Abstracts. International Conference "Mathematics in the Constellation of Sciences", dedicated to the 85th anniversary of Victor Antonovich Sadovnichii, April 1−2, 2024, Lomonosov Moscow State University, Moscow, Russia, pp. 257-258. https://math-conf.msu.ru/#abstracts
8. Aliev A.R., Eyvazov E.H. Self-adjointness of the Schrödinger operator with a spherically symmetric homogeneous potential / Book of Abstracts. XI International

Conference on Modern Problems of Mathematics and Mechanics dedicated to the memory of the genius Azerbaijani scientist and thinker Nasireddin Tusi, July 03-06, 2024, Baku, Azerbaijan, pp. 220-221. https://mpmm.imm.az/abstract-2024.pdf

8) work: "Some ergodic theorems for probability measures in locally compact groups." Ex. : doct. ph.m.s., prof.sen.r.a. H.S. Mustafayev

1.H.S.Mustafayev " A-ergodicity of probability measures on locally compact

Groups" **Archiv der Mathematik** İsveçrə 2024 cild 22, səh 47-57,11 səh.
 https:/doi.org/10.1007/s00013-023-01938-y

2.H.S.Mustafayev "Individual stability of representation of abelian semigroups" **Turkish Journal of Mathematics,** Türkiyə2024 cild 48 №5,səh 965-975, 11 səh.
https://journals.tubitak.gov.tr/math/vol48/iss5/12/

3.H.S.Mustafayev "Weight ergodic theorems for power bounded measures on locally compact groups" **New York Journal of Mathematics, ABŞ 2024 cild 30, səh 1056-1078 23 səh.**
 https://nyjm.albany.edu/j/2024/30-48.html

4. H.S.Mustafayev "Convergence of iterates of normal operators in L^2 spaces" **Azerbaijan Journal of Mathematics, Azərbaycan 2024, cild 14 №2 səh 181-188, 8 səh.** https://azjm.org/volumes/14-2.html

5. H.S.Mustafayev "Convergence of iterates of probability measures on locally compact groups ", **Baku Mathematical Journal.** Azərbaycan 2024. Cild 3.№1, səh 64-74, 11 səh.
 https://www.bakumathj.org/index.php/editorial-team/uncategorised/volume-3-issue-1-special issue

9) work: "Study of the expansions of the differential operator with the coefficient of the second order operator by subtraction from the space." Ex: doct.ph.m.s., prof. sen.re.a. M. Bayramoglu. doct.m.s., prof. sen.re.a. N.M. Aslanova.

1.Н.М.Асланова "О РАСШИРЕНИЯХ С ВЫХОДОМ ИЗ ПРОСТРАНСТВА, АСИМПТОТИКЕ СПЕКТРА И РЕГУЛЯРИЗОВАННОМ СЛЕДЕ ДИФФЕРЕНЦИАЛЬНОГО ОПЕРАТОРА ЧЕТВЕРТОГО ПОРЯДКА", МГУ,Международная конференция Математика в созвездии наук, почвященная к юбилею ректора МГУ В.А.Садовничего, Москва , 1-2 апрель, 2024, стр.209-210

2.N.M.Aslanova, M.Bayramoglu, "ON DIFFERENT EXTENSIONS WITH EXIT FROM SPACE OF MINIMAL OPERATOR ASSOCIATED WITH SECOND ORDER OPERATOR DIFFERENTIAL EXPRESSION", International conference on mathematics, mechanics and their applications, June 20-22, 2024, Baku Azerbaijan

3.N.M.Aslanova, Kh. Aslanov , A. Aliyeva3 " OPERATOR-THEORETICAL FORMULATLONS OF BOUNDARY VALUE PROBLEM FOR STURM–

LIOUVILLE OPERATOR EQUATlON" International conference on mathematics, mechanics and their applications, pp.26-27, June 20-22, 2024, Baku Azerbaijan

4N.M.Aslanova , Kh.Aslanov, "ON ASYMPTOTICS OF SPECTRUM OF BOUNDARY VALUE PROBLEM FOR STURM-LIOUVILLE OPERATOR EQUATION WITH λ -DEPENDENT BOUNDARY CONDITION" International conference on mathematics, mechanics and their applications, pp. 29-31, June 20-22, 2024, pp.32-34, Baku Azerbaijan

5. N.M.Aslanova, Kh. Aslanov , "ON RELATION BETWEEN NORMING CONSTANTS AND CHARACTERISTIC FUNCTION OF OPERATOR STURM–LIOUVILLE PROBLEM"International conference on mathematics, mechanics and their applications, pp.35-37, June 20-22, 2024, Baku Azerbaijan

10)work: "Spectral properties of continuous operators."
Ex: cand.ph.m.s., ass.prof. lead r.a. A.R.Jabrailova

1.R.Dzhabarzadeh, A.Jabrailova. Spectral properties of completely continuous operators in separable Hilbert space. N.Tusinin xatirəsinə həsr olunmuş «XI Riyaz. və Mex. Müasir Problemləri» adlı Beynəlxalq elmi konfransın materialları. 03-06 iyun 2024 il, Bakı

11)work: "For unperturbed and excited Markov random walks integral limit theorems." Ex: phd in mat., ass prof. lead r.a. V. S. Khalilov

1. Vuqar S. Khalilov, U.F. Mammadova.On the Law of large numbers for the of Markov random walks described by the autoregressive process $AR(1)$ Baku State University Journal of Mathematics and Computer Sciences 2024, v.1(2) p. 90-97.

2. Khalilov V.S., Amanova N.R. On the existence of strong solutions of higher order quasilinear parabolic equations.Uzbek Mathematical Journal 2024, v.68, issues pp.11-18, DOI:10.29229/uzmj.2024-1-2.

3. F.G. Rahimov, U.S. Khalilov, U.F. Mamedova. On the law of large numbers sums of the values of first-order autoregressive prosses with random coefficient $(RC\ AR(1))$. Nəsirəddin Tusinin Xatirəsinə həsr olunmuş XI Beynəlxalq Konfransın tezisləri. July 01-06, 2024, Baku.

4. Vuqar S. Khalilov. On solvability of some quasilinear elliptic sistems of higher order. Nəsirəddin Tusinin Xatirəsinə həsr olunmuş XI Beynəlxalq Konfransın tezisləri. July 01-06, 2024, Baku.

5. Aliyev S., Khalilov V.S. On convergence of Bellman-Harris processes to continuous state space branching process. XXXIX International Conference, Problems of decision Making under uncertainties (PDMU-2024) September 9-10, 2024, pp.14-15 Brno, Czech Republic.

12)work: "Limit problems for Markov random walks described by an autoregressive process with one-order random coefficients." Ex: cand.ph.m.s., ass.prof.,lead.r.a. İ.A.İbadova

1.F.H. Rahimov, I.A.Ibadova,U.F.Mammadova On the family of the first passege time of sums of values of first order autoregressiv procces with random coefficient Proceedings of IAM V.13, N.1, 2024, pp.35-43 DOI: 10.30546/2225-0530.13.1.2024.013.

2. F.H. Ragimova,I.A. Ibadova,U.F. Mamedova On the law of large numbers of the moments of the first intersection of the level by a random walk described by an autoregression process with a random coefficient. XI İnternational Scientifik Conference "Modern problems of Mathematics and Mechanics "July 03- 06, 2024, Baku Azerbaijan

3.S.A.Aliyev,I.A.Ibadova On convergence of age-dependent branching process with emigration. XI İnternational Scientifik Conference "Modern problems of Mathematics and Mechanics "July 03- 06, 2024, Baku Azerbaijan

13)work: "Some properties of the Sturm-Liouville problem with an interior singular point." Ex:c.ph.m.s.,ass.prof.,lead. r.a. F. Sh. Mukhtarov.

1.F.Sh. Muhtarov, H. Olgar, O.Sh. Mukhtarov. "Operator-pencil treatment of multi-interval Sturm-Luoville equation with boundary transmission conditions". "Bulletin of the Karaganda University". Mathematics series, No3(115), 2024 pp.126-136, (indeksli jurnal Web of.)

2. F.Sh. Muhtarov, K. Aydemir, O.Sh. Mukhtarov. "Spektrum of a differential-operator equation with transmission conditions" Oktober17-20,2024 Belgrad

3. F.Sh. Muhtarov, K. Aydemir, O.Sh. Mukhtarov. "Resolvent operator of a multi-interval boundary value transmission problem", Oktober17-20,2024 Belgrad

14)work: "Trace formulas for the Bessel operator whose boundary condition includes a spectral parameter." Ex:c.ph.m.s.,lead.r.a. N.C. Guliyev.

In the reporting year, the asymptotic behavior of the eigenvalues of the Bessel operator with a spectral parameter in the boundary condition was studied. The final versions of all articles submitted for publication to the journal "Proceedings of IMM" are posted on the journal's website.

15)work: "The problem of inverse scattering on the semiaxis for a system of hyperbolic equations." Ex:c.ph.m.s.,chief.r.a K.I. Alimardanova.

1.R.M.Dzhabarzadeh, K.A.Alimardanova. Eigenvalues of a completely continuous operators in Hilbert space / Dahi Azərbaycan alimi və mütəfəkkiri Nəsirəddin Tusinin xatirəsinə həsr olunmuş "Riyaziyyat və Mexanikanın müasir problemləri" adlı XI Beynəlxalq konfransın tezisləri, səh. 244-245, Bakı ş, 03-06 iyul 2024.

2.A.N. Safarova, K.A.Alimardanova. The direct scattering problem for general stationary systems on a semi-axis / Dahi Azərbaycan alimi və mütəfəkkiri Nəsirəddin Tusinin xatirəsinə həsr olunmuş "Riyaziyyat və Mexanikanın müasir problemləri" adlı XI Beynəlxalq konfransın tezisləri, səh. 273-275, Bakı ş, 03-06 iyul 2024.

16) work: "Spectral analysis of the Schrödinger operator with additive potential." Ex: phd in math.,chief. r.a. A.R. Latifova.

1 A.R.Latifova,J.A.Osmanly. "Transformation Operators for the Schrödinger Equation with a Linearly Increasing Potential". Journal of Contemporary Applied Mathematics v.14, No1, 2024, p. 22-27

2. A.R.Latifova, H.M.Huseynov, J.A.Osmanly "Direct and inverse scattering problems for a discontinuous coefficient Sturm-Liouville equation on a semi-axis." Modern Problems of Mathematics and their applications,International Conference, June 20-22, 2024, Baku, Azerbaijan

17)work: "Study of numerical domain and spectrum of some class of operators." Ex: phd in math., chief. r.a. N.G. Vahabov.
18)work: "A spectral problem for a system of Dirac equations with a class of truncated coefficients in a finite piece."
Ex: phd in math., chief. r.a. J. A. Osmanli.

1. J.A.Osmanly, A.R.Lətifova , Transformation Operators for the Schrödinger Equation with a Linearly Increasing Potential" Journal of Contemporary Applied Mathematics v.14, No 1, 2024, p. 22-27

2. H.M.Huseynov, A.R.Latifova, J.A.Osmanly "Direct and inverse scattering problems for a discontinuous coefficient Sturm-Liouville equation on a semi-axis." Modern Problems of Mathematics and their applications,International Conference, June 20-22, 2024, Baku, Azerbaijan

3. H.M.Huseynov, J.A.Osmanly, "On the solution of an equation with a spectral parameter in the discontinuity condition." Modern Problems of Mathe-matics and Mechanics, XI International Conference dedicated to the memory of the genius Azerbaijani scientis and thinker Nasireddin Tusi, Baku, 03-06 July, 2024, p. 251

19)work: "Semiaxial straight and inverse scattering problems for two incident waves for a system of hyperbolic equations."

Ex: phd in math., chief. r.a. A.N. Safarova.

1.Я. Т. Мегралиев, А. Н. Сафарова, А. М. Гусейнов Решение одной краевой задачи для одного уравнения. Буссинеска четвертого порядка с интегральным условием. Н.Ə. Əliyevin 101-ci yubileyinə həsr olunmuş respublika elmi konfransın materialları, BDU, 2024, səh. 154-155.

II. Scientific-social activity.

doct. ph.m.s.,prof. H.I. Aslanov continued his teaching activities at BSU.

He was appointed the chairman of the State Examination Commission at BSU. He was a member of the organizing committee of the Republican competition "Scientist of Tomorrow" organized by the Ministry of Education. He participated in scientific councils as a member of the defense council. He is a member of the editorial board of Transactions of NAS of Azerbaijan and Proceedings of the Institute Mathematics and Mechanics. He supervised three dissertation students.

He was a member of the minimum qualification examination commission for doctoral students at BMU.

doct. ph.m.s.,prof.sen.r.a. S.A. In the reporting year, he was on a scientific trip to the Czech Republic and made 2 scientific reports. He was a member of the organizing committee of 3 international conferences (Czech Republic, Uzbekistan, Georgia) and was an official candidate for 1 doctoral dissertation. In addition, work was carried out on a grant project from the SOCAR Scientific Foundation.

doct. ph.m.s.,prof.sen.r.a. A.R. Aliyev Invited speaker at the International Scientific Conference "Mathematics in the Constellation of Sciences", dedicated to the 85th anniversary of the action. member of the RAS, prof. V.A. Sadovnichy, held on April 1-2, 2024 in Moscow, Russian Federation. Member of the editorial board of the journal and Proceedings of the Institute of Mathematics and Mechanics, editor-in-chief of the journals Baku Math. Journal" and "Azerbaijan Journal of High Performance Computing"

doct. ph.m.s.,prof.sen.r.a. I.M. Nabiyev . He was the chairman of the State Attestation Commission at Azerbaijan State Oil and Industry University.

doct. ph.m.s.,prof.sen.r.a. H.M. Huseynov is a member of editorial board of a lot of international and republican scientific journals. He is an adviser of magisters and doctoral students.

doct. ph.m.s.,prof.sen.r.a. S.S. Mirzoyev's two cand. for degrees have submitted their dissertation works to the Scientific Council of IMM.

doct.ph.m.s.,prof.sen.r.a. H.S. Mustafayev Many of the department collaborators are engaged in pedagogical activity in different higher education institutions of the Republic.   On July 03-06, the Institute of Mathematics and Mechanics of the Ministry of Science and Education of the Republic of Azerbaijan hosted the XI International "Modern Problems of Mathematics and Mechanics", dedicated to the memory of the brilliant Azerbaijani scientist and thinker Nasireddin Tusi. He was an official opponent of Habil Dovlet oglu Fattaev's dissertation "Geometry of Koreper bundles", submitted for the degree of Doctor of Science of Javanshir Vagif oglu Azizov's dissertation "Boundedness of fractional maximal integral operators defined in the Heisenberg group in weighted spaces

doct. ph.m.s.,prof.sen.r.a. V.M. Gurbanov He is a member of the editorial board of many international and republican scientific journals. Supervises graduate and doctoral students.

Many of the employees of the department are engaged in teaching activities in various higher educational institutions of the Republic.

PARTICIPATION IN SCIENTFIC SEMINARS

All the collaborators have participated in the institute and department seminars.

The published scientific papers

21 papers and 27 abstract of the department employees were published. Several articles and theses have been published. 17 of the published papers are included in Science of Scopus database.

Heard of department: **doct.ph.m.s.prof. H.İ.Aslanov**