

CURRICULUM VITAE
Tigran Karapetyan



SURNAME Karapetyan
FIRST NAME Tigran
Date and place of birth: September 29, 1979, Republic of Armenia.
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A.I. Alikhanyan National Science Laboratory
(Yerevan Physics Institute) Foundation.
Alikhanyan brothers 2, Yerevan 0036, Armenia.

Technical skills:

Operating Systems	MS Windows family, Linux.
Data analysis tools	MatLab, Origin, ROOT.
Other software	Microsoft Office.

Driving license: B, C.

Work Experience:

- Installation of workstations (windows XP, 7, 8, 10, Linux, antivirus software).
- Install, upgrade, and maintain computers.
- Repair of computers and notebooks.
- Resolving of hardware and software problems.
- Motherboard recoding.

Diagnostics.
RAM checking.
Hard drive verification.
Repair of bad blocks.
Data restoration.

Education (degrees, dates universities):

- Bachelor's degree of Physics, Pedagogics in the field of Nuclear Physics 2002-2006, Yerevan State University.
- Master's degree of Physics in the field of Nuclear Physics 2006-2008, Yerevan State University.
- Ph.D in Physics (Nuclear, Elementary particles and cosmic ray physics), 2014, A. I. Alikhanyan National Science Laboratory (Yerevan Physics Institute) Foundation.

Career/Employment (employers, positions and dates):

- Senior laborant at the Cosmic Ray Division of the Yerevan Physics Institute, 2008-2011.
- Engineer-Physicist at the Cosmic Ray Division of the A. I. Alikhanyan National Science Laboratory (Yerevan Physics Institute) Foundation, 2011-2014.
- Scientific researcher at the Cosmic Ray Division of the A. I. Alikhanyan National Science Laboratory (Yerevan Physics Institute) Foundation, 2014-2016.
- Senior scientific researcher at the Cosmic Ray Division of the A. I. Alikhanyan National Science Laboratory (Yerevan Physics Institute) Foundation, 2016 --- till today.
- Group leader of laborants of Nor Amberd high altitude research station of the Cosmic Ray Division of the A. I. Alikhanyan National Science Laboratory (Yerevan Physics Institute) Foundation, 2009--- till today.
- Deputy Head of the Cosmic Ray Division of the A. I. Alikhanyan National Science Laboratory (Yerevan Physics Institute) Foundation, 2014--- till today.
- Group leader of N220/2 (Armenian geophysical network and elementary particle detectors' networks service) of the Cosmic Ray Division of the Alikhanyan National Science Laboratory (Yerevan Physics Institute) Foundation, 2018--- till today.

- Responsible of European network of particle detectors SEVAN (Space Environmental Viewing and Analysis Network), 2017--- till today.
- Member of the Scientific Council at the A. I. Alikhanyan National Science Laboratory (Yerevan Physics Institute) Foundation, 2016 ---2021.
- Member of the Scientific Council at the A. I. Alikhanyan National Science Laboratory (Yerevan Physics Institute) Foundation, 2021 --- till today.
- Member of the Supreme Certifying Commission “Physics of the Nucleus, Elementary Particles and cosmic rays, A.04.16” for the annual qualification exam of the postgraduate students in A. I. Alikhanyan National Science Laboratory (Yerevan Physics Institute) Foundation. 2016 --- till today.
- Member of the Supreme Certifying Commission “Physics of the Nucleus, Elementary Particles and cosmic rays, A.04.16” for the PhD admission exam in A. I. Alikhanyan National Science Laboratory (Yerevan Physics Institute) Foundation. 2016 --- till today.

Awards:

A.I. Alikhanyan National Science Laboratory (Yerevan Physics Institute) award for scientific results in 2012.

Research Grants

1. Co-Leader of the thematic funding of the project “21AG -1C012” “Natural radioactivity and cosmic rays”; total budget 156.000.000 AMD; period 2021-2026, Republic of Armenia:
2. Project A1554, Space Weather Monitoring and Forecasting using a network of particle/hybrid detectors for detecting charged and uncharged particle fluxes, International Science and Technology Center (ISTC), \$ 977,000.00. Participant.
3. Republic of Armenia, thematic funding “15T-1C011” “High Energy Physics in Atmosphere and Lightning Phenomenon” period 2015-2017, total funding 15,000,000 AMD. Participant.
4. Republic of Armenia, thematic funding “18T-1C042” Comprehensive monitoring of the Cosmic ray fluxes for high-energy physics and environmental research, period 2018-2020, total funding 15,000,000 AMD. Participant.
5. Database of Directivity Functions of Neutron Monitors, The database was created with the support of VarSITI (Variability of the Sun and Its Terrestrial Impact (VarSITI) 2014-2018), 2017. Participant.

6. Collaborative project with DESY in the area of High Energy Astrophysics 01.01.2018); DESY; Germany; 48000 EURO. Participant.
7. Collaborative project with DESY, Outreach and monitoring (SEVAN) activities, 01.05.2019; DESY; Germany, 40000 EURO. Participant

Specialization (specify):

High energy physics in the atmosphere, Lightning Physics, Solar physics, Geophysics, Solar-terrestrial connections, Modulations of secondary cosmic ray fluxes, Particle detectors.

Courses taught at the master program of the Alikhanyan National Science Laboratory (Yerevan Physics Institute):

Networks of particle detectors, 2016 till 2021

List of publications:

1. A. Chilingarian, Ch. Angelov, K. Arakelyan, T. Arsov, K. Avakyan, S. Chilingaryan, A. Hovhannisyanyan, G. Hovsepyan, D. Hrzina, T. Hovhannisyanyan, D. Maricic, A. Nishev, A. Tchordadjieff, I. Kalapov, T. Karapetyan, L. Kozliner, B. Mailyan, A. Reymers, I. Romštajn, D. Roša, J. Stamenov, S. Tserunyan, A. Yeghikyan, New Particle Detector Network for Solar Physics and Space Weather research, PROCEEDINGS OF THE 31st ICRC, ŁODZ, 1-4, 2009.
2. D. Rosa, Ch. Angelov, K. Arakelyan, T. Arsov, K. Avakyan, A. Chilingarian, S. Chilingaryan, A. Hovhanissyan, T. Hovhannisyanyan, G. Hovsepyan, D. Sargsyan, D. Hrzina, I. Kalapov, T. Karapetyan, L. Kozliner, B. Mailyan, D. Maricic, A. Nishev, D. Pokhsranyan, A. Reymers, I. Romstajn, J. Stamenov, A. Tchordadjieff, L. Vanyan, Sevan CRO particle detector for solar physics and space weather research, Central European Astrophysical Bulletin, 34, 115-122, 2010.
3. Chilingarian A., Karapetyan T., Calculation of the barometric coefficients at the start of the 24th solar activity cycle for particle detectors of Aragats Space Environmental Centre, Advances in Space Research, 47, 1140-1146, 2011, <https://doi.org/10.1016/j.asr.2010.12.001>
4. Chilingarian A., Bostanjyan N., Karapetyan T., Vanyan L., Remarks on recent results on neutron production during thunderstorms, Physical Review D, 86, 093017/1-093017/7, 2012, <https://doi.org/10.1103/PhysRevD.86.093017>

5. Karapetyan T., Magnetometric Measurements at Mt. Aragats, Journal of Physics: Conference Series, 409, 012220/1-012220/5, 2013, [**https://doi:10.1088/1742-6596/409/1/012220**](https://doi.org/10.1088/1742-6596/409/1/012220)
6. Chilingarian A., Karapetyan T., Melkumyan L., Statistical analysis of the Thunderstorm Ground Enhancements (TGE's) detected on Mt. Aragats, Advances in Space Research, 52, 1178-1192, 2013, [**https://doi.org/10.1016/j.asr.2013.06.004**](https://doi.org/10.1016/j.asr.2013.06.004)
7. Chilingarian A., Bostanjyan N., Karapetyan T., On the possibility of location of radiation-emitting region in thundercloud, Journal of Physics, 409, 012217/1 012217/4, 2013, [**doi:10.1088/1742-6596/409/1/012217**](https://doi.org/10.1088/1742-6596/409/1/012217)
8. A. Chilingarian, N. Bostanjyan, T. Karapetyan and L. Vanyan, Neutron production during thunderstorms, Journal of Physics: Conference Series 409 (1), 012216, 2013, [**doi:10.1088/1742-6596/409/1/012216**](https://doi.org/10.1088/1742-6596/409/1/012216)
9. Chilingarian A., Mnatsakanyan E., Avakyan K., Reymers A., Vanyan L., Karapetyan T., Low Energy threshold (01,-2MeV) detector for registration of the Thunderstorm ground enhancements, Proceedings of International Symposium TEPA 2013, 96-101, 2013.
10. T. Karapetyan, Research of solar and thunderstorm modulation effects posed on the secondary cosmic ray fluxes, VarSITI Newsletter, Vol. 2, July 2014.
11. A. Chilingarian, T. Karapetyan, D. Pokhsroryan, Research of the thundercloud electrification by facilities of Aragats Space Enviromental Center, Proceedings of International Symposium TEPA-2015, 54-57, **ISBN 978-99941-0-712-4**, <https://inspirehep.net/record/1407534>, 2016.
12. A. Chilingarian, T. Karapetyan, D. Pokhsroryan, V. Bogomolov, G. Garipov, M. Panasyuk, S. Svertilov, K. Saleev, Ultraviolet and infrared emission from lightning discharges observed at Aragats, Proceedings of International Symposium TEPA-2015, 2, 58-63, **ISBN 978-99941-0-712-4**, 2016, <https://inspirehep.net/record/1407534>
13. A. Chilingarian, S. Chilingaryan, T. Karapetyan, L. Kozliner, Y. Khanikyants, G. ovsepyan, D. Pokhsroryan, S. Soghomonyan, On the initiation of lightning in hunderclouds, SCIENTIFIC REPORTS, 7: 1371, 1-10, **ISBN 978-99941-0-803-9**, <https://inspirehep.net/record/1407534>, 2017, [**https://doi.org/10.1038/s41598-017-01288-0**](https://doi.org/10.1038/s41598-017-01288-0)

14. A. Chilingarian, S. Chilingaryan, T. Karapetyan, Y. Khanikyants, D. Pokhsraryan, S. Soghomonyan, On the origine of particle fluxes from thunderclouds, Proceedings of International Symposium TEPA-2016,13-19, **ISBN 978-99941-0-803-9**, 2017, <https://inspirehep.net/record/1407534>
15. V. Bogomolov, A. Chilingarian, G. Garipov, G. Hovsepyan, A. Iyudin, T. Karapetyan, A. Kovalenko, I. Maximov, E. Mntasakanyan, M. Panasyuk, K. Saleev, S. Svertilov, Results of TGE Study in 0.03-10 Mev Energy Range in Ground Experiments near Moscow and Aragats, Proceedings of International Symposium TEPA-2016, 50-55, **ISBN 978-99941-0-803-9**, 2017, <https://inspirehep.net/record/1407534>,
16. K. Avakyan, S. Chilingaryan, A. Chilingarian, T. Karapetyan, Physical analysis of multivariate measurments in the Atmospheric high-energy physics experiments within ADEI platform, Proceedings of International Symposium TEPA-2016, 56-69, **ISBN 978-99941-0-803-9**, 2017, <https://inspirehep.net/record/1407534>,
17. G. Karapetyan, T. Karapetyan, Z. Asaturyan, Database of Directivity Functions of Neutron Monitors, VarSITI Newsletter, Vol. 16, January 2018.
18. A. Chilingarian, V. Babayan, T. Karapetyan, B. Mailyan, B Sargsyan and M. Zazyan, The SEVAN Worldwide network of particle detectors: 10 years of operation, Advances in Space Research, 2018, **doi: <https://doi.org/10.1016/j.asr.2018.02.030>**
19. F. Šterc, D. Roša, D. Maričić, D. Hržina, I. Romštajn, A. Chilingarian, T. Karapetyan, D. Cafuta and M. Horvat, SEVAN particle detector at Zagreb Astronomical Observatory: 10 years of operation, Proceedings of Tenth Workshop “Solar Influences on the Magnetosphere, Ionosphere and Atmosphere” Primorsko, Bulgaria, 144-150, **ISSN 2367-7570**, 2018.
20. Nina Nikolova, Karel Kudela, Ronald Langer, Igor Strhárský, Ivo Angelov, Ashot Chilingarian, Tigran Karapetyan, Balabek Sargsyan, Todor Arsov, and Christo Angelov, SEVAN detector measurements at BEO Moussala and Lomnický Štít: First experience from 2014-2017, AIP Conference Proceedings **2075**, 130028 (2019); 2019, **<https://doi.org/10.1063/1.5091313>**
21. A. Chilingarian, A. Avetisyan, G. Hovsepyan, T. Karapetyan, L. Kozliner, B. Sargsyan, M. Zazyan, On the Origin of the Low-Energy Gamma Ray Flux of the Long-Lasting Thunderstorm Ground Enhancements (LL TGEs), Proceedings of International Symposium TEPA-2018, 111-117, 2019, **ISBN 978-99941-0-905-0**

22. T. Karapetyan, B. Sargsyan, Influence of the Barometric Effect on the Surface Particle Detectors Count Rates, Proceedings of International Symposium TEPA-2018, 111-117, 2019, **ISBN 978-99941-0-905-0**
23. A. Chilingarian, A. Avetisyan, G. Hovsepyan, T. Karapetyan, L. Kozliner, B. Sargsyan, M. Zazyan, Origin of the low-energy gamma ray flux of the long-lasting thunderstorm ground enhancements, PHYSICAL REVIEW D 99, 102002, (2019), **DOI:10.1103/PhysRevD.99.102002**
24. A. Chilingarian, G. Hovsepyan, A. Elbekian, T. Karapetyan, L. Kozliner, H. Martoian and B. Sargsyan, Origin of enhanced gamma radiation in thunderclouds, Physical review research, (2019), **DOI: 10.1103/PhysRevResearch.1.033167**
25. A. Chilingarian, G. Hovsepyan, T. Karapetyan, G. Karapetyan, L. Kozliner, H. Mkrtchyan, D. Aslanyan and B. Sargsyan, Structure of thunderstorm ground enhancements, PHYSICAL REVIEW D101, 122004 (2020), **DOI: 10.1103/PhysRevD.101.122004.**
26. Ashot Chilingarian¹, Tigran Karapetyan¹, Mary Zazyan¹, Gagik Hovsepyan¹, Balabek Sargsyan¹, Nina Nikolova², Hristo Angelov², Jaroslav Chum³, Rony Langer⁴, Analyzing atmospheric electric field by the European SEVAN network of particle detectors, NMBD symposium, July, 2020, Kiel University, Pages 101 – 108, **DOI:10.38072/2748-3150/p12.**
27. Ashot Chilingarian¹, Tigran Karapetyan¹, Mary Zazyan¹, Gagik Hovsepyan¹, Balabek Sargsyan¹, Nina Nikolova², Hristo Angelov², Jaroslav Chum³, Rony Langer⁴, Maximum strength of atmospheric electric field, PHYSICAL REVIEW D103, 043021 (2021), **DOI: 10.1103/PhysRevD.103.043021.**

Conferences and Business trips:

1. UN/ESA/NASA/JAXA Workshop on the International Heliophysical Year 2007 and Basic Space Science, Sozopol, Bulgaria, 2-6 June, 2008.
2. Forecasting of the Radiation and Geomagnetic Storms by networks of particle detectors (FORGES -2008), Nor Amberd, Armenia, 29 September-2 October, 2008.
3. Thunderstorms and Elementary Particle Acceleration (TEPA-2010), Nor Amberd, Armenia, 6-11 September, 2010.
4. The 23-rd European Cosmic Ray Symposium (ECRS 2012), Moscow, Russia, 3-7 July, 2012.
5. Thunderstorms and Elementary Particle Acceleration (TEPA-2012), Moscow, Russia, 9-11 July, 2012.

6. Thunderstorms and Elementary Particle Acceleration (TEPA-2013), Nor Amberd, Armenia, 9-13 September, 2013.
7. Sixth Workshop of Solar Influences on the Magnetosphere, Ionosphere and Atmosphere, Sunny Beach, Bulgaria, 26-30 May, 2014.
8. Meeting of the BBC Regional Network for Space Weather Studies, Sunny Beach, Bulgaria, 29 May, 2014.
9. Thunderstorms and Elementary Particle Acceleration (TEPA-2014), Nor Amberd, Armenia, 22-26 September, 2014.
10. Lightning initiation, Electron acceleration and Atmospheric Discharges, (LEAD – 2015), Nor Amberd, Armenia, 9-12 June, 2015.
11. Thunderstorms and Elementary Particle Acceleration (TEPA-2015), Nor Amberd, Armenia, 5-9 October, 2015.
12. 34-я Всероссийская конференция по космическим лучам, Дубна, 15-19 августа 2016 г.
13. Thunderstorms and Elementary Particle Acceleration (TEPA-2016), Nor Amberd, Armenia, 3-7 October, 2016.
14. “10 years of NMDB” Workshop 20-23 March, 2017, Athens, Greece.
15. ARBRA Armenia – Brandenburg Workshop on Scientific Collaboration and Common Interests in the Physical Sciences, on 23-24 May 2017 at Nor Amberd International Conference Centre of the Yerevan Physics Institute (YerPhi), Byurakan, Armenia.
16. Thunderstorms and Elementary Particle Acceleration (TEPA-2017), Nor Amberd, Armenia, 2-6 October, 2017.
17. Thunderstorms and Elementary Particle Acceleration (TEPA-2018), Nor Amberd, Armenia, 17-21 September, 2018.
18. Thunderstorms and Elementary Particle Acceleration (TEPA-2019), Nor Amberd, Armenia, 14-17 October, 2019.
19. NMDB@Home: Virtual symposium on cosmic ray studies with neutron detectors, 13-17 July, 2020.

Languages:

Armenian native
Russian good
English good