

# Zviad Tsamalaidze

## The short list of the publications

1. Manufacture and investigation of cylindrical scintillation counters of ARES spectrometer.  
**Prib. Tekh. Eksp. 6 (1987) 40.**
2. Search for  $\mu \rightarrow e^+ e^+ e^-$  - decay.  
**J. Phys. G: Nucl. Part. Phys. 17(1991) s57.**
3. About the decay  $\pi^+ \rightarrow \mu^+ + 2e^+ \nu$ .  
**Yad. fizika 54 (1991) 1298.**
4. Measurement of decay  $\pi^+ \rightarrow e^+ \nu e^+ e^-$ .  
**Yad. fizika 55 (1991) 2940.**
5. ARES - a spectrometer for the investigation of rare particle decays and rare nuclear Processes. NIM, 1994, v.A346, p.496.
6. About the decay  $\pi^+ \rightarrow \mu^+ + e^+ e^- \nu$ .  
**Communication of the JINR, P1--92--131, Dubna, 1992.**
7. Simulation of the Process  $\pi + d \rightarrow p + p$  Detection in the ARES Facility.  
**Communication of the JINR, P15-90-179, Dubna,1990**
8. Design commissioning and performance of the PIBETA detector at PSI.  
**Nucl.Instrum.Meth.A526:300-347,2004**
9. Precise measurement of the Pion Axial form-factor in the  $\pi^+ \rightarrow e^+ + \nu + \gamma$  decay.  
**Phys.Rev.Lett.93:181804,2004**
10. Precise measurement of the  $\pi^+ \rightarrow \pi^0 + e^+ + \nu$  branching ratio.  
**Phys.Rev.Lett.93:181803,2004**
11. PIBETA spectrometer for investigation of rare and forbidden decays of muons and pions.  
JINR-P13-2003-102, Instrum.Exp.Tech.48:168-176, 2005  
**Prib.Tekh.Eksp. 48 N2:39-48,2005**
12. New Precise Measurement of the Pion Weak Form Factors in  $\pi^+ \rightarrow e^+ \nu$  Decay.  
**Phys.Rev.Lett.103:051802,2009.**
13. New Precise Measurement of the Pion Weak Form Factors in the Pion Radiation Decay.  
**Phys. Rev. Lett.103:051802,2009**
14. New studies of allowed pion and muon decays  
**AIP Conf.Proc. 1560 (2013) 128-130**
15. New results in rare allowed muon and pion decays  
**Int.Mod.Phys.Conf.Ser. 35 (2014) 1460437**
16. Scintillator-Lucite sandwich detector for N/Gamma separation in the GeV energy region.  
**Nucl.Instrum.Meth.A484:118-128,2002**

17. Neutral beam line to study  $K_L^0 \rightarrow \pi^0 \nu \bar{\nu}$  decay at the KEK 12-GeV proton synchrotron.  
**Nucl.Instrum.Meth.A545:542-553,2005.**
18.  $K_L \rightarrow \pi^0 \nu \nu$  experiment at KEK 12-GEV PS - E391A.  
**Nucl.Phys.A721:449-452,2003**
19. Undoped CsI calorimeter for the  $K_L^0 \rightarrow \pi^0 \nu \bar{\nu}$  experiment at KEK-PS  
**Nucl.Instrum.Meth.A545:278-295,2005.**
20. **New limit on the  $K_L^0 \rightarrow \pi^0 \nu \nu$  decay rate.**  
**Phys. Rev. D 74, 051105(R) (2006).**
21. **First Search for  $K_L^0 \rightarrow \pi^0 \pi^0 \nu \nu$ .**  
**Phys.Rev.D76:011101, 2007.**
22. Search for the Decay  $K_L^0 \rightarrow \pi^0 \pi^0 \nu \nu$ .  
**PRL 100, 201802, (2008).**
23. Barrel photon detector of the KEK  $K_L^0 \rightarrow \pi^0 \nu \nu$  experiment.  
**Nucl.Instrum.Meth.A 592 (2008) 261–272.**
24. Search for a light pseudoscalar particle in the decay  $K_L^0 \rightarrow \pi^0 \pi^0 X$ .  
**PRL 102, 051802 (2009)**
25. Experimental study of the decay  $K_L \rightarrow \pi^0 \nu \nu$   
**Phys.Rev.D81:072004,2010.**
26. Search for the decay  $K_L \rightarrow 3\gamma$   
**Phys.Rev.D83:031101,2011.**
27. Response characteristics of GSO(Ce) crystal to intermediate-energy  $\alpha$ -particles.  
**Nucl.Instrum.Meth.A 564 (2006) 324–327.**
28. Magnitude factor systematics of Kalbach phenomenology for reactions emitting helium and lithium ions.  
**Nucl.Instrum.Meth.A 571 (2007) 743–747.**
29. A new detector system for the measurement of double differential cross sections of proton-actinide reactions in the 600-MeV region. **Conference: C08-10-18, p.1021-1024**
30. The NEXT-100 experiment for neutrinoless double beta decay searches (Conceptual Design Report) NEXT Collaboration V. Alvarez *et al.* **arXiv:1106.3630**
31. SiPMs coated with TPB : coating protocol and characterization for NEXT  
V. Alvarez (Valencia U., IFIC & Valencia U.) *et al.*. Jan 2012.  
**JINST 7 (2012) P02010**
32. NEXT-100 Technical Design Report (TDR): Executive Summary  
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35. Ionization and scintillation response of high-pressure xenon gas to alpha particles  
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37. Near-Intrinsic Energy Resolution for 30 to 662 keV Gamma Rays in a High Pressure Xenon Electroluminescent TPC  
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**JINST 8 (2013) P04002**
39. Operation and first results of the NEXT-DEMO prototype using a silicon photomultiplier tracking array  
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**JINST 8 (2013) P09011**
40. Present status and future perspectives of the NEXT experiment  
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**Adv.High Energy Phys. 2014 (2014) 907067**
41. Radiopurity control in the NEXT-100 double beta decay experiment  
V. Álvarez *et al.*. 2013. 4 pp.  
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42. Description and commissioning of NEXT-MM prototype: first results from operation in a Xenon-Trimethylamine gas mixture  
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44. Characterisation of NEXT-DEMO using xenon  $K\alpha$  X-rays  
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46. Results of the material screening program of the NEXT experiment  
NEXT Collaboration (T. Dafni (LSC, Zaragoza & Zaragoza U.) *et al.*). Nov 5, 2014. 3 pp.  
**Conference: C14-07-02, arXiv:1411.1222**

47. Radiopurity assessment of the tracking readout for the NEXT double beta decay experiment  
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48. An improved measurement of electron-ion recombination in high-pressure xenon gas  
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49. PMT calibration of a scintillation detector using primary scintillation  
NEXT Collaboration (E.D.C. Freitas (Coimbra U.) *et al.*). 2015. 12 pp.  
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53. Sensitivity of NEXT-100 to neutrinoless double beta decay  
NEXT Collaboration (J. Martin-Albo (Valencia U., IFIC) *et al.*). Nov 30, 2015. 29 pp.  
**arXiv:1511.09246**
54. Conceptual design report for experimental search for lepton flavor violating  $\mu^- \rightarrow e^-$  conversion at sensitivity of  $10^{-16}$   
with a slow-extracted bunched proton beam (COMET). **KEK- 2009-10**
55. Beam and SKS spectrometers at the K1.8 beam line.  
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56. Search for the  $\Theta^+$  pentaquark via the  $\pi^- p \rightarrow K^- X$  reaction at 1.92 GeV/c  
**Phys.Rev.Lett. 109 (2012) 132002**
57. J-PARC E27 Experiment to Search for a Nuclear Kaon Bound State  $K^- pp$   
**Few Body Syst. 54 (2013) 1191-1194**
58. Search for Pentaquark  $\Theta^+$  in Hadronic Reaction at J-PARC  
**Few Body Syst. 54 (2013) 955-960**
59. High Precision  $\gamma$ -ray Spectroscopy of  $^4\Lambda\text{He}$  and  $^{19}\Lambda\text{F}$  at J-PARC.  
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60. Gamma-ray spectroscopy of hypernuclei —present and future  
**Nuclear Physics, Section A, Volume 914, p. 99-108. (2013)**
61. Search for the  $\Theta^+$  pentaquark at J-PARC.  
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62. High-resolution search for the  $\Theta^+$  pentaquark via a pion-induced reaction at J-PARC  
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63. Search for  $6\Lambda\text{H}$  hypernucleus by the  $6\text{Li}(\pi^-, \text{K}^+)$  reaction at  $p\pi^- = 1.2\text{ GeV}/c$ .  
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64. Study on  $6\Lambda\text{H}$  hypernucleus by the  $(\pi^-, \text{K}^+)$  reaction at J-PARC  
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65. Inclusive spectrum of the  $d(\pi^+, \text{K}^+)$  reaction at  $1.69\text{ GeV}/c$ .  
**Prog. Theor. Exp. Phys.** **2014**, 101D03
66. Observation of Spin-Dependent Charge Symmetry Breaking in  $\Lambda N$  Interaction: Gamma-Ray Spectroscopy of  ${}^4_\Lambda\text{He}$ .  
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67. J-PARC E27 Experiment to Search for a  $\text{K}^-pp$  Bound State.  
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68. J-PARC E19 Experiment: Pentaquark  $\Theta^+$  Search in Hadronic Reaction at J-PARC.  
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69. Study of  $\Lambda N$  Interaction via the  $\gamma$ -ray Spectroscopy of  $({}^4_\Lambda\text{He})$  and  $({}^{19}_\Lambda\text{F})$  (E13-1st). **JPS Conf.Proc.** **8** (2015) 021017
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73. Microscopic simulation of xenon-based optical TPCs in the presence of molecular additives  
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74. Secondary scintillation yield of xenon with sub-percent levels of  $\text{CO}_2$  additive for rare-event detection. **Phys.Lett.** **B773** (2017) 663-671
75. Measurements of the Higgs boson production and decay rates and constraints on its couplings from a combined ATLAS and CMS analysis of the LHC  $pp$  collision data at  $\sqrt{s}=7$  and  $8\text{ TeV}$ . **JHEP** **1608** (2016) 045
76. Development of an extremely thin-wall straw tracker operational in vacuum – The COMET straw tracker system.  
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77. Development of Ultrathin  $12\text{ }\mu\text{m}$  Thick Straw Tubes for the Tracking Detector of COMET Experiment.  
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78. COMET Phase-I Technical Design Report. **PTEP** **2020** (2020) 3, 033C01.
79. Construction on vacuum-compatible straw tracker for COMET Phase-I. **NIMA**, **958**, 162800, 2020
80. Properties of straw tubes for tracking detector of the COMET experiment. **NIMA**, **V 1004**, 11 July 2021.

**In total about 1200 publications**