

## In Memory of Vigen Chaltykyan

The scientific community of Armenia has recently suffered a heavy loss. Vigen Chaltykyan, Doctor of Physical and Mathematical Sciences, Senior Scientist of the Institute for Physical Research (IPR) of NAS of Armenia, Professor of the Base Chair of Russian-Armenian (Slavonic) University at the IPR and Deputy Chief Editor of the Armenian Journal of Physics, a man of exceptional scientific professionalism, intelligence and decency has passed away.

V. Chaltykyan was born on August 5, 1942 in Yerevan, in the family of a well-known chemist, H. Chaltykyan, the Corresponding Member of the Academy of Sciences of Armenia. In 1964, after

graduating from the Faculty of Physics of Yerevan State University, V. Chaltykyan began his scientific career at the Academy of Sciences of Armenia, first at the Institute of Radiophysics and Electronics, and since 1968, at the Theoretical Department of the newly organized Institute for Physical Research, IPR, led by one of the greatest physicists of Armenia, Michael Ter-Mikaelian. During these early years, V. Chaltykyan conducted a number of interesting researches that served as the basis for his PhD thesis "Nonlinear interaction of intense radiation with a resonant medium", which he successfully defended in 1970. Since 1972, V. Chaltykyan became a senior research fellow of IPR and continued his successful research in the field of laser physics and quantum optics. Theoretical results obtained during these years provided solid basis for interpreting several experiments carried out at IPR, also helped in building an exceptionally beautiful and original in its simplicity absorption-polarization method for the measurement of atomic constants, developed by a group headed by Academician Melist Movsessian. Many works implemented by Chaltykyan back in the 70-80s, are nowadays widely used in the experiments in the new areas of modern physics, such as quantum computing. Among the major results, it should be firstly mentioned the possibility of adiabatic transfer of atomic population in three-level systems by selecting the sequence of laser pulses, that was later experimentally confirmed in Germany in the 90's by a group led by Prof. K. Bergmann. This effect, which was called STIRAP, is widely used today. V. Chaltykyan's work published in 1975 was certainly pioneering. Another striking work of V. Chaltykyan concerned first studies of the polarization states of two photons. Carried out in 1985, it underlies the modern methods of generating entangled states. Systematic studies of magneto-optical effects in resonant media formed the basis of his doctoral dissertation, which V. Chaltykyan defended in 1996. Despite a weak heart, V. Chaltykyan continued the research work until his last days. An article dedicated to recording and retrieval of optical information has been sent for publication just two weeks before his death.

Along with the research work V. Chaltykyan was engaged in teaching activities, supervising PhD students, and delivering lectures on special topics at Yerevan State University. Since 2007 he has worked with the Master students of Russian-Armenian (Slavonic) University, developed a course in modern Spectroscopy and was preparing it for the publication. Perhaps, the most important part in the training of young researchers and students of the Institute was his permanent willingness

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to help younger colleagues, to discuss with them their works, suggest new ideas, edit their articles, clearly and accurately making out the results. Being fluent in three foreign languages, he could easily make a report in German while in Germany or in French while in France. Being perfectly fluent in English, he never refused the colleagues requests to translate a text or an article for an international edition. It should be noted that often he was literally rewriting the articles to make them sound "more physics".

An erudite person, who was interesting to talk to, surprisingly modest and friendly, always ready to listen and support, to find the right words in difficult moments, or to share joys and sorrows. High scientific level, breadth of the worldview, crystal honesty and integrity, high demands on himself first and foremost of all - these are the qualities that were inherent to V. Chaltykyan, a scientist and a man.

The bright memory of Vigen Chaltykyan will remain forever in the memory of his numerous colleagues and students.

**Editorial Board**