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Aleksandr Nikolaevich Skrinskiĭ (on his 60th birthday)

We are pleased to announce that Aleksandr Nikolaevich Skrinskiĭ, leading scientist, Full Member of the Russian Academy of Sciences and Academician-Secretary of the Division of Nuclear Physics, has recently turned 60. Born in Orenburg on January 15, 1936, A N Skrinskii graduated with honours from the Moscow State University in 1959, then entered the Siberian Division of the Institute of Nuclear Physics of the Academy of Sciences of the USSR, where, under the supervision of A M Budker, he embarked upon his life as a scientist.

From the very beginning of his scientific career, A N Skrinskiĭ has been involved in researching and developing radically new types of charged-particles accelerators designed for use in high energy physics experiments.

Not long after mesons were discovered (around the same time when academician Skrinskiĭ was born), physicists began to realise that special devices were needed to accelerate protons or electrons to high velocities in order to better understand the structure of elementary particles. However, by the end of the Fifties and the early Sixties, this path afforded no further opportunities for development. The use of devices with colliding beams allowed the efficiency of particle acceleration to be considerably (hundreds of times) upgraded. The active participation of A N Skrinskiĭ in pioneering studies involving colliding beams at VEP-1 and VEPP-2 research centres paved the way for experiments conducted to verify the applicability of quantum electrodynamics at short distances and to observe the creation of ρ, ω and ϕ-mesons. The significance of this work, combined with personal merits, earned A N Skrinskiĭ the Lenin Prize in 1967.

Data on meson production cross sections largely contributed to the creation of a unified theory of weak and electromagnetic forces. The VEPP-2, VEPP-3 and VEPP-4 devices, built under the guidance of A N Skrinskiĭ, were instrumental in furthering investigations into the nature of new particles, including ψ and Υ-mesons. In the Seventies, A N Skrinskiĭ developed the resonance depolarisation technique. This method made it possible to compare the magnetic momenta of electrons and positrons with hitherto unattainable accuracy. The use of this method to gauge beam clusters allowed for the measurement of particle mass to the order of $10^{-5} \div 10^{-6}$. In 1989, A N Skrinskiĭ was awarded the State Prize for a series of these pioneer studies. He also suggested applying A M Budker's idea of 'electron cooling' to the accumulation of antiprotons and creation of proton-antiproton colliding beams. In-depth evaluation of the electron-cooling technique, in whose development A N Skrinskiĭ actively participated, has revealed unexpected potentialities,

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i.e. the possibility of cooling heavy particle beams to below 1 K, to produce quasi-crystal beams, accumulate unique nuclei arising from the collision of heavy nuclei with the target, etc. As a matter of fact, many research centres currently use devices which run on the electron cooling principle. While these devices are as yet inapplicable to primary accumulations of antiprotons, an experiment was performed at CERN in which antiprotons were trapped in a small superconductor solenoid and cooled in a cloud of electrons.

In 1968, A N Skrinskiĭ was elected Corresponding Member and in 1970 Full Member of the USSR Academy of Sciences. His achievements earned him immense prestige both in Russia and abroad. He is a Council member at CERN, DESY, and many other research centres. He is the first Russian scientist to have received the V I Veksler Gold Medal of the Russian Academy of Sciences for his remarkable contribution to progress in the physics of accelerators.

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At present, A N Skrinskiĭ is devoting much time and energy to the construction of a complex of colliders with superhigh luminosity – the so-called electron-positron fabrics (ϕ-fabric and c – τ-fabric). Drawing upon his great expertise and daring new ideas, this complex is expected to yield the high luminosity necessary for the examination, at a new level, of parity non-conservation effects. The c – τ-fabric will be used to produce large amounts of the heaviest electron analogue, τ-lepton and c-quark.

Hopefully, the implementation of this relatively inexpensive project will serve as the basis for Russia'n contribution to high-energy physics in the near future.

A N Skrinskiĭ has been committed for nearly 20 years to furthering the cause of A M Budker, carefully maintaining and painstakingly developing the traditions cultivated at the Institute of Nuclear Physics which, compared to other academic institutions, is a large and world-famous research centre for the physics of accelerators, high-energy physics and thermonuclear experiments.

In 1988, A N Skrinskiĭ was elected Academician-Secretary of the Division of Nuclear Physics under the Russian Academy of Sciences. Following this, however, academician Skrinskii did not leave his Institute and spares no energy to enhance its performance.

We convey to Aleksandr Nikolaevich our heartfelt wishes for the best of health and further success in his multidimensional scientific and organisational endeavours.

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