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PERSONALIA

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Lev Petrovich Pitaevskiĭ (on his seventieth birthday)

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Lev Petrovich Pitaevskiĭ, outstanding physics theoretician and full member of the Russian Academy of Sciences, will celebrate his 70th birthday on January 18, 2003.

Lev Petrovich was born in Saratov. While still a student in Saratov, he volunteered to take Landau's famous Theoretician's Minimum Test and passed it. After graduation, he received Landau's invitation to Moscow as a postgraduate in the Institute for Physics Problems (now the P L Kapitza Institute for Physical Problems). Ever since then Lev Petrovich's work has been closely tied with this institute: here he rose from junior to senior then to principal research scientist, and from 1988 to 1992 headed the Theory Division.

In 1976 L P Pitaevskiĭ was elected corresponding member and, in 1990, a full member of the Academy of Sciences of the USSR.

L P Pitaevskiĭ's research papers demonstrated the best features of Landau's school. Undoubtedly one of the most talented representatives of this school, Lev Petrovich made first-class contributions to many areas of theoretical physics.

Lev Petrovich was one of the first to successfully apply the methods of quantum field theory to condensed matter physics; his work on studying the spectra of quasiparticles close to the decay threshold and, in particular, his work on the cutoff point of the spectrum of quasiparticles in superfluid ^{4}He long ago became a classic and was incorporated into textbooks.

L P Pitaevskiĭ derived identities that became the basis for microscopic derivation of relations that form the foundation of the theory of Fermi liquids; he showed that liquid ^{3}He must also become superfluid at sufficiently low temperatures as a result of Cooper pairing with non-zero momentum.

L P Pitaevskiĭ, together with I E Dzyaloshinsky and I M Lifshitz, developed the general theory of Van der Waals forces. This theory led to a number of important observable physical results.

Other fundamental works of L P Pitaevskiĭ in the theory of condensed state are widely known. In 1959 Pitaevskiĭ, together with V L Ginsburg, considered the complex order parameter as a dynamic variable and derived the equation describing the behavior of superfluid ^{4}He in the vicinity of the λ-point, and in 1961 Lev Petrovich derived the well-known Gross – Pitaevskiĭ equation which proved to be the main tool for a theoretical description of the weakly non-ideal Bose gas, especially after the Bose condensation of atomic gases in traps became a reality. In 1997 Lev Petrovich Pitaevskiĭ was awarded the Eugene Feenberg medal for his fundamental contribution to the theory of liquid helium and superfluid Bose liquids.

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Translated by V I Kisin

Lev Petrovich Pitaevskiĭ

Lev Petrovich Pitaevskiĭ wrote a number of profound and interesting papers on multiphonon processes and crystal physics; he proved an important theorem stating that dispersion cannot change the form of the stress tensor of an electromagnetic field in transparent media, and predicted a new effect known as the inverse Faraday effect.

Joint work by L P Pitaevskiĭ and A V Gurevich gave rise to an important direction of research: ionospheric aerodynamics, which included solutions of problems on the streamlining of bodies (e.g., artificial satellites around the Earth) by rarified ionospheric plasma. During this work L P Pitaevskiĭ and A V Gurevich developed an efficient method of constructing multi-soliton solutions on nonlinear equations. This method led to solutions which describe collisionless shock waves, and analyzed the structure of edge solitons. This work was later developed in a number of papers of a mathematical nature. In 1980 L P Pitaevskiĭ and A V Gurevich won the L D Landau Prize of the Academy of Sciences of the USSR.

L P Pitaevskiĭ's important contribution to theoretical physics is not limited to new original results. Together with E M Lifshitz, he completed the world-famous Course of

Theoretical Physics textbooks by L D Landau and E M Lifshitz. They wrote three new volumes, *Quantum Electrodynamics* (together with V B Berestetsky), *Statistical Physics*, part 2, and *Physical Kinetics*. At the moment Lev Petrovich continues working on revised editions of the Course.

For many years now L P Pitaevskiĭ has been the Deputy Editor-in-Chief of *Uspekhi Fizicheskikh Nauk* journal (*UFN*) [*Physics – Uspekhi*] and takes active part in the work of the Editorial Board.

L P Pitaevskiĭ's talents as a teacher are highly valued both in Russia and abroad. Talking to him and discussing with him scientific problems leads to deeper understanding and to the generation of new ideas.

We wish Lev Petrovich good health and much success in all his undertakings.

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