

CONFERENCES AND SYMPOSIA

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Scientific session of the Physical Sciences Division of the Russian Academy of Sciences dedicated to the centenary of L D Landau's birth (22, 23 January 2008)

A scientific session of the Physical Sciences Division of the Russian Academy of Sciences dedicated to the centenary of L D Landau's birth was held in the Conference Hall of the Lebedev Physics Institute, Russian Academy of Sciences, on 22 and 23 January 2008. An Opening Address by A F Andreev and the following reports were presented at the session:

(1) **Andreev A F** (Kapitza Institute of Physical Problems, Russian Academy of Sciences) "Supersolidity of quantum glasses";

(2) **Kagan Yu M** (Russian Research Center Kurchatov Institute, Moscow) "Formation kinetics of the Bose condensate and long-range order";

(3) **Pitaevskii L P** (Kapitza Institute of Physical Problems, Russian Academy of Sciences; Dipartimento di Fisica, Universita di Trento and BDC Center, Trento, Italy) "Superfluid Fermi liquid in a unitary regime";

(4) **Lebedev V V** (Landau Institute for Theoretical Physics, Russian Academy of Sciences, Chernogolovka, Moscow Region) "Kolmogorov, Landau, and the modern theory of turbulence";

(5) **Khalatnikov I M** (Landau Institute for Theoretical Physics, Russian Academy of Sciences, Moscow), **Kamenshchik A Yu** (Landau Institute for Theoretical Physics, Russian Academy of Sciences, Moscow; Dipartimento di Fisica and Istituto Nazionale di Fisica Nucleare, Bologna, Italy) "Lev Landau and the problem of singularities in cosmology";

(6) **Ioffe B L** (Russian State Scientific Center Alikhanov Institute for Theoretical and Experimental Physics, Moscow) "Axial anomaly in quantum electro- and chromodynamics and the structure of the vacuum in quantum chromodynamics";

(7) **Okun L B** (Russian State Scientific Center Alikhanov Institute for Theoretical and Experimental Physics, Moscow) "The theory of relativity and the Pythagorean theorem";

(8) **Lipatov L N** (St. Petersburg Nuclear Physics Institute, Gatchina, St. Petersburg) "Bjorken and Regge asymptotics of scattering amplitudes in QCD and in supersymmetric gauge models."

A brief presentation of the Opening Address by A F Andreev and reports 2, 3, and 5 – 8 is given below.

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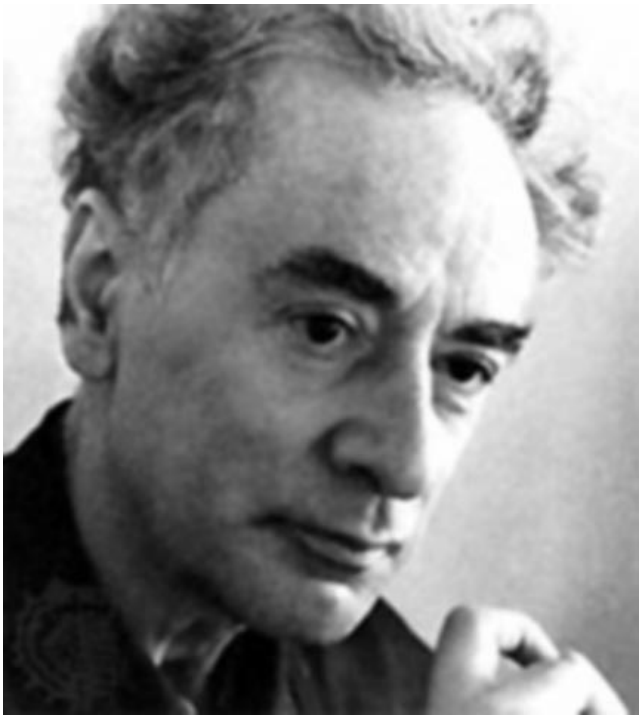

Lev Davidovich Landau
22.01.1908 – 01.04.1968

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L D Landau: 100th anniversary
(Introductory talk)

A F Andreev

Dear colleagues! Today is a memorable day for scientists: Lev Davidovich Landau was born 100 years ago. The audience present here today — an enviable audience in all respects, of course — does not really need to be told who Lev Davidovich Landau was or why we are all gathered here on this day. I would only like to emphasize the following aspect. From my point of view, Lev Davidovich was the man who was able to show and to formulate what theoretical physics is all about — indeed, there is no need to remind you how broad his scope was, what his approach was to completely different fields of physics and chemistry, to everything the world contains. He

embraced the entirety of theoretical physics and with his absolutely first-class work demonstrated the essence of the general approach of theoretical physics to all natural phenomena.

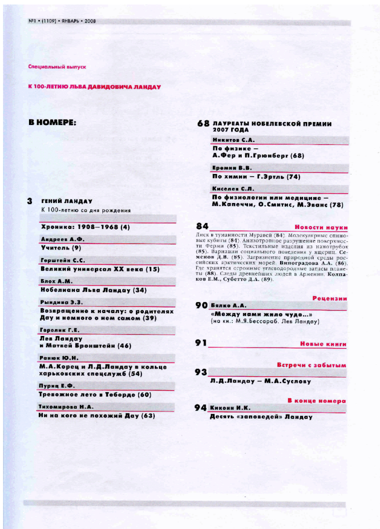
Together with Evgenii Mikhailovich Lifshitz (Lev Petrovich Pitaevsky also took part in it), Landau wrote a truly fundamental course of theoretical physics, in which he not only presented the essential core of problems attacked by theoretical physics but also demonstrated his approach — what he meant by working in theoretical physics and what sort of argument is allowed in true theoretical physics stripped of fuzzy philosophizing about the nature of things; he gave a straightforward demonstration: here is the way it must be done.

Landau left behind a very large school, which in fact was not all that large while he was alive, just several dozen people. Nevertheless, the first generations of Landau's students not only sustained and preserved Landau's method — the theoretician's minimum, the approach to fostering and shaping theoretical physicists — but also developed and extended it; they have every reason to be proud of this achievement. Landau's students, and most of all Isaak Markovich Khalatnikov, created the Institute for Theoretical Physics, which started to 'mass-produce' theoretical physicists of an absolutely world-class stature (eventually, even Petr Leonidovich Kapitza had to agree with this), and not on a 'one-off' basis, as it was in Landau's lifetime, but in an 'industrial' fashion. As a result, the group known as Landau's school became a high-profile community of physicists. Once the Soviet Union crashed out of existence, this absolutely unique community of people spread all over the world and we could say that in this way Landau succeeded in defining what theoretical physics is on a world scale, not just in the Soviet Union.

No doubt, some physicists contributed more to physics in general and to theoretical physics in particular than did Landau. But I do not think that we can say about anyone else that they showed what the gist of theoretical physics was, how one should do it, how to help new generations to mature, and how to write books on theoretical physics. It was after Landau's death that Evgeny Mikhailovich Lifshitz showed me a letter from an outstanding theoretician — I do not remember exactly who it was but it was one the big names — and it said: "The entire wisdom of the West came from the books of Landau and Lifshitz." This was very high praise and Evgeny Mikhailovich was of course very proud to receive it. Now the last thing I wish to say is that the times that began in Landau's lifetime and lasted through the 1970s to the beginning of the 1980s, these times are gone forever, never to return; it is sad but I am sure I am right. Consequently, all this structure that you admired and took off your hat to, is now impossible: time brought us grants, funds, foundations, and so forth. In these conditions, it will definitely never be possible to recreate the atmosphere that reigned in Landau's time, and then, after he was gone, in a few places where Landau's school flourished, e.g., in the Institute for Theoretical Physics and in some other places. Still, there is some ground for optimism since there are a good many people around who absorbed these ideas, this high respect to science and to theoretical physics; I am convinced that we will be able to continue working successfully and for a long time and that Landau's name will continue to occupy pride of place in our hearts.

I wish to mention in conclusion that the magazine *Priroda* published an outstanding special issue (No. 1, 2008) devoted to the 100th anniversary of the birth of academician L D Landau and presenting new materials on the life and work of the great scientist. *Priroda* has published such special issues devoted to Nobel Prize winners in the past — to academicians P L Kapitza, I E Tamm, and N N Semenov.

I think that the Division of Physical Sciences of the Russian Academy of Sciences ought to express its gratitude to the magazine *Priroda* for its efforts in celebrating the memory of outstanding Russian scientists.



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Специальный выпуск

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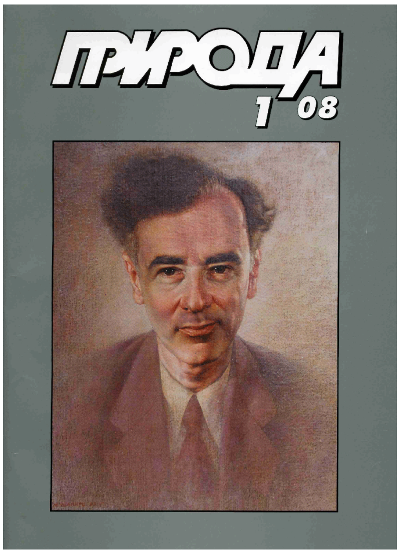

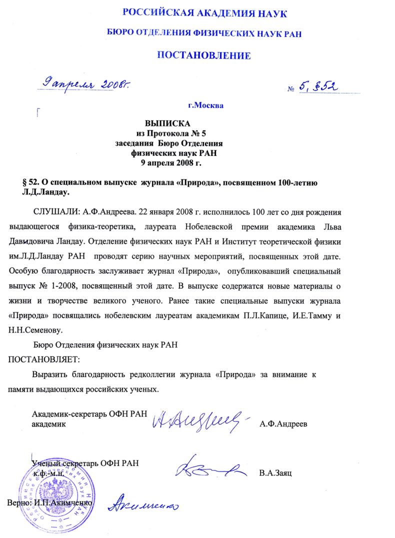

РОССИЙСКАЯ АКАДЕМИЯ НАУК

БЮРО ОТДЕЛЕНИЯ ФИЗИЧЕСКИХ НАУК РАН

ПОСТАНОВЛЕНИЕ

9 апреля 2008г. № 5, §52

г.Москва

ВЫПИСКА
из Протокола № 5
заседания Бюро Отделения
физических наук РАН
9 апреля 2008 г.

§ 52. О специальном выпуске журнала «Природа», посвященном 100-летию Л.Д.Ландау.

СЛУШАЛИ: А.Ф.Андреева. 22 января 2008 г. исполнилось 100 лет со дня рождения выдающегося физика-теоретика, лауреата Нобелевской премии академика Льва Давидовича Ландау. Отделение физических наук РАН и Институт теоретической физики им.Л.Д.Ландау РАН проводят серию научных мероприятий, посвященных этой дате. Особую благодарность заслуживает журнал «Природа», опубликовавший специальный выпуск № 1-2008, посвященный этой дате. В выпуске содержатся новые материалы о жизни и творчестве великого ученого. Ранее такие специальные выпуски журнала «Природа» посвящались нобелевским лауреатам академикам П.Л.Капице, И.Е.Тамму и Н.Н.Семенову.

Бюро Отделения физических наук РАН
ПОСТАНОВЛЯЕТ:

Выразить благодарность редколлегии журнала «Природа» за внимание к памяти выдающихся российских ученых.

Академик-секретарь ОФН РАН
академик А.Ф.Андреев

Ученый секретарь ОФН РАН
к.ф.-м.н. В.А.Заяц

Верно: И.П.Акимченко

Front page and table of contents of the special issue of the magazine *Priroda* (No. 1, 2008) devoted to the 100th anniversary of Lev Davidovich Landau's birth.