

Yakov Borisovich Zeldovich

(1914–2014)



A handwritten signature in black ink, written in a cursive style. The signature is slanted to the right and features a long, sweeping underline that extends to the left.

8 March 2014 is the 100th anniversary of the birth of Yakov Borisovich Zeldovich

This and the next issue of the journal ‘Physics – Uspekhi’ [English translation of the Russian ‘Uspekhi Fizicheskikh Nauk’ journal (UFN)] present papers devoted to the current development of the scientific heritage of the outstanding physicist Ya B Zeldovich — academician of the Russian Academy of Sciences (USSR Academy of Sciences), three-time Hero of Socialist Labor, member of the National Academy of the USA, the Royal Society of London, and a number of other national academies, honorary doctor of many renowned universities, Dirac prize winner, and awardee of many orders and medals, including the gold medal of the Royal Astronomical Society of Great Britain.

Yakov Borisovich’s work underlies many new trends of physico-chemical kinetics, the physics of combustion and detonation processes, shock wave physics, nuclear physics and energetics, elementary particle physics, and, finally, his last affection — astrophysics and cosmology. This work has never lost its relevance, and some of it has even taken on greater importance. The reviews published in these two ‘Physics – Uspekhi’ (UFN) issues show the present-day state of precisely these areas and at the same time demonstrate the presence of Zeldovich and the significance of his ideas at the very forefront of modern physics.

The editorial board of UFN is proud of the fact that Yakov Borisovich Zeldovich published here more than fifty reviews and over almost three decades up to his demise was one of the most active members of the editorial board and to a great extent determined the image of our journal.

For more details concerning Ya B Zeldovich’s contributions and the remarkable personality of this prominent scientist, see the following books and papers:

Zeldovich Ya B *Selected works. Chemical physics and hydrodynamics* (Ed. Yu B Khariton) (Moscow: Nauka, 1984) [Selected Works of Yakov Borisovich Zeldovich, Volume I: Chemical Physics and Hydrodynamics (Eds G I Barenblatt, J P Ostriker) (Princeton: Princeton University Press, 1992)];

Zeldovich Ya B *Selected works. Particles, nuclei, the Universe* (Ed. Yu B Khariton) (Moscow: Nauka, 1985) [Selected Works of Yakov Borisovich Zeldovich, Volume II: Particles, Nuclei and the Universe (Ed. R A Sunyaev) (Princeton: Princeton University Press, 1993)];

Yakov Borisovich Zeldovich (reminiscences, letters, documents) (Eds S S Gershtein, R A Sunyaev) 2nd edition, enlarged (Moscow: Fizmatlit, 2008) [Zeldovich (reminiscence) (Ed. R A Sunyaev) (N.-Y.: Taylor&Francis Group, 2005)]

Personalia in ‘Uspekhi Fizicheskikh Nauk’ [‘Physics – Uspekhi’] journal:

Smorodinskii Ya A, Frank-Kamenetskii D A “Yakov Borisovich Zeldovich (on his fiftieth birthday)” *Usp. Fiz. Nauk* **82** 567 (1964) [*Sov. Phys. Usp.* **7** 332 (1964)];

Gershtein S S, Gurevich I I, Imshennik V S, Novikov I D, Pontecorvo B M, Sagdeev R Z “Yakov Borisovich Zeldovich (on his sixtieth birthday)” *Usp. Fiz. Nauk* **112** 533 (1974) [*Sov. Phys. Usp.* **17** 276 (1974)];

Arnold V I, Barenblatt G I, Ginzburg V L, Kadomtsev B B, Kapitza P L, Okun L B, Pitaevskii L P, Sagdeev R Z, Sunyaev R A, Faddeev L D Frenkel’ V Ya, Khariton Yu B “Yakov Borisovich Zeldovich (on his seventieth birthday)” *Usp. Fiz. Nauk* **142** 531 (1984) [*Sov. Phys. Usp.* **27** 230 (1984)];

Aleksandrov A P, Arnold V I, Borovik-Romanov A S, Velikhov E P, Gershtein S S, Ginzburg V L, Gol’dansky V I, Kagan Yu M, Kadomtsev B B, Ovchinnikov A A, Okun L B, Pitaevskii L P, Prokhorov A M, Sagdeev R Z, Sakharov A D, Sunyaev R A, Khalatnikov I M, Khariton Yu B “In commemoration of Yakov Borisovich Zeldovich” *Usp. Fiz. Nauk* **155** 729 (1988) [*Sov. Phys. Usp.* **31** 778 (1988)];

and on the UFN web-site <http://ufn.ru/ru/authors/659/zeldovich-ya-b/>