

plest geometrical assumptions concerning the shape of the charge—either a sphere, or a moderately elongated cylinder—we obtain the density of the reacting deuterium of the order of 100 gm/cm³. (Note by translator).

³⁴ Bethe interview, Feb. 10, 1987.

³⁵ Bethe interview, Jan. 5, 1989.

³⁶ *Ibid.*

^{36a} The authors are silent on such a well-known and important element of the design of a hydrogen bomb as the use of "lithium deuteride" as the explosive material, instead of pure deuterium, which they mention here. This can be interpreted as a silent admission that someone else has priority! (Note by translator).

³⁷ Edward Teller, *Better a Shield than a Sword*, p. 113.

^{37a} In the memoirs of A. D. Sakharov he states: "Towards the end of June 1948 Igor' Evgen'evich Tamm with a mysterious mien asked me and another of his pupils, Semen Zakharovich Belen'kiĭ, to stay behind after a seminar. He closed the door tightly and made an astounding announcement. By a resolution of the Council of Ministers and the Central Committee of the Communist Party of the Soviet Union, a research group is being organized within the Physics Institute of the Academy of Sciences (FIAN). He has been named director, and we two its members. The task for the group—theoretical and design work with the aim of determining the feasibility of making a hydrogen bomb. Specifically—checking and making more precise those calculations which are being carried out in Zel'dovich's group at the Institute for Chemical Physics. I gave it no thought at the time but I now believe that the design developed by the Zel'dovich group for a hydrogen bomb was directly inspired by information acquired through espionage. However, I have no proof of this. (A. Sakharov, *Memoirs* (In Russian), Chekhov Publishing House, New York, 1990, p. 190. *Memoirs* (In English) Hutchinson, London, 1990, p. 94).

³⁸ Vannevar Bush, Transcript of hearing, p. 562.

*This article is abridged from an account which can be obtained from

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FROM THE EDITORIAL BOARD OF USPEKHI FIZICHESKIKH NAUK

Without disputing the opinions of Hirsch and Mathews on the conditions of producing the Soviet hydrogen bomb we note that such independent developments were conducted earlier in the USSR also. In particular, this topic, that was raised in the special issue of the journal "Priroda" dedicated to A. D. Sakharov (1990, No. 8) will be continued on the pages of this publication, but already in connection with the name of another outstanding Soviet physicist—Ya. B. Zel'dovich, who participated in the production of both the atomic and the hydrogen bombs. We bring to the attention of our readers excerpts from the interview with Yu. B. Khariton, from the reminiscences of S. S. Gershtein about Ya. B. Zel'dovich and the proposal by I. I. Gurevich, Ya. B. Zel'dovich, I. Ya. Pomeranchuk and Yu. B. Khariton "Utilization of the nuclear energy of light elements" addressed to I. V. Kurchatov in 1946 and preserved in the archives of the I. V. Kurchatov Institute of Atomic Energy. A more detailed account of this will be published in the journal "Priroda."

FROM THE INTERVIEW GIVEN BY YU. B. KHARITON TO THE JOURNAL "PRIRODA"

"...Recently in the West assertions have surfaced that when the Americans exploded their first hydrogen bomb, we probably succeeded in collecting secondary products of the explosion contained in atmospheric fallout, and, having analyzed them, in reconstructing the entire scheme of the process. But in reality we, in principle, could not have accomplished this, since at that time the collection of atmospheric fallout and its analysis was very poorly developed in our country.