

## NUCLEAR PHYSICS FOR THE WORLD ECONOMY

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This paper reviews the achievements of nuclear physics for various fields of knowledge and unique technologies in the sectors of the world economy. It is difficult to imagine modern society without the achievements of nuclear physics. It is also one of the driving forces for the development of our civilization.

Counting back to the first nuclear reaction carried out, which is more than a hundred years old, we can conditionally distinguish three stages in the development of nuclear physics. The first one ranges (1919 - ~1954) from the first nuclear reaction to the creation of nuclear weapons and energy; the second part goes from the emergence of elementary particle physics to its intensive application in practical technologies (~1950 - ~2000); the third stage is the dominant development of applied nuclear physics research and technologies (since ~2000). The impressive achievements of nuclear physics include the creation of nuclear energy, nuclear medicine and radiation therapy, nuclear beam diagnostics, the widest use of nuclear physics facilities - accelerators in industry and agriculture, the construction of the first all-European TOKOMAK, unique experiments on neutrino coupling, and many others.

The nuclear physics development leaves a firm confidence that the rate of nuclear technologies and methods invasion into our life will only increase.

1. Radiacionnye tekhnologii. Nauka. Narodnoe hozyajstvo. Medicina. Izdatel'stvo Moskovskogo universiteta Moskva, ISBN 978-5-19-011409-6, 231 s., 2019.
2. Belousov A.V., Varzar S.M., Zheltonozhskaya M.V., Lykova E.N. Chernyaev. A.P. Perspektivy razvitiya radiacionnyh tekhnologij v Rossii. Yadernaya fizika, tom 82, № 5, s. 425-439 DOI, 2019

### The speaker is a student or young scientist

No

### Section

1. Nuclear technology and methods in medicine, radioecology

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