SCO-Young Scientist Profile

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Passport photo in .JPG
(please append)

Details of research work carried out in S&T (*limit to 200 words*)

The decisive factor that determines the economic potential of the state is its participation in high-tech activities (digital economy, artificial intelligence, innovation, etc.).

Currently, the importance of the energy sector in global development is constantly increasing and it is at a high level. The high level of importance of the energy sector at the global level is manifested against the background of the excess of energy resources in the world and the moderate growth rates of most industrialized countries. For this reason, special attention is paid to innovations in the field of transition to environmentally friendly and resource-saving energy, increasing the efficiency of extraction and deep processing of hydrocarbon raw materials, the formation of new sources, methods of transportation and storage of energy.

As part of the proposed innovation project, it is planned to develop a number of scientific and technical developments in the field of creating tools for improving the efficiency of electric energy use.

Associated SCO-YSC Theme:

Sustainable Energy and Energy Storage

Statement of Innovation ***(Brief information on new innovative ideas including startup / entrepreneurs- limit to 150 words)***

As part of the proposed innovation project, it is planned to form a number of scientific developments in the field of creating technical means to increase the efficiency of electric energy use.

As a result of search studies, it was found that the power supply in rural and remote areas has a number of special factors in comparison with the power supply of megalopolises

and cities. The main feature is the need to supply electrical energy to a large number of consumers with low installed capacity located over a large area. An economically viable solution, in this case, is the use of single-phase power lines. When using these networks, the problem of start of three-phase and two-phase electric drives of various electrified agricultural and urbanized machines is appearred.

To solve this problem, it is proposed to develop original semiconductor transistor converters for three-phase and two-phase electric drives of electrified machines, which are powered from single-phase network.

Major awards/ Achievements ***(Upto 3 awards)***

Innovative contests:

- grant from the Russian Foundation for Basic Research;

- grant under the program "Start" of the Foundation for the Promotion of Innovation.

Awards and achievements;

- letter of thanks from L.Yu. Yeltsova, Deputy Minister of Labor and Social Protection of the Russian Federation;

- letter of thanks from Deputy Minister of Energy of the Russian Federation A.B. Yanovsky.

Possible collaboration with SCO countries ***(limit to 100 words)***

Looking for collaboration in the design, development and research sustainable energy devices.

Key words ***(relevant to research work conducted as well as proposed innovation, 5-6 words)***

sustainable energy, induction motor, single-phase network