

رتبه اول خارجی

Foreign First Winner

Project Title:

The Discovery, the Investigation, and the Parctical Use of the Phenomenon of Self - Synchronization of Rotating Bodies

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عنوان طرح:

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محقق:

دکتر ایلیا بلخمان

کشور:

روسیه

دانشگاه:

آکادمی علوم روسیه

Abstract:

The phenonmenon of self - synchronization of rotating bodies consists in the fact that two or more rotors, not connected with each other, either kinematically or electrically, installed on a mobile base and set into motion by independent asynchronous agents, rotate synchronously, i.e. with the same or with multiple angular velocities and with definite mutual phases in spite of the difference in their "individual" angular velocities.

Investigations made the basis of the creation of a new class of vibrational machines, i.e. the machines with self - synchronized vibro - exciters (screens, crushers, conveyers, mills, etc; more than 300 patents). These machines are produced in large numbers in Russia and in other countries and work at many industrial enterprises; in particular they are installed on the metallurgical plant in Isfahan (Iran).

These investigations are being continued at present by his colleagues and by other scientists in Germany, Netherlands, Poland, Japan and in other countries.