INFORMATION SYSTEMS FOR INORGANIC MATERIALS SCIENCE

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In recent years in the developed countries the initiatives aimed to the infrastructure organization for access to data about materials were announced and supported by the governments. In 2011 the USA started a project, called Materials Genome Initiative (MGI) [1]. In 2014 National Data Service announced a project of creation of repository for experimental and calculated data [2]. In 2015 EU supported a program Novel Materials Discovery Laboratory [3]. The analogous programs were an-nounced in Japan [4], China [5] and India [6]. In spite of the fact that hundreds of millions of dollars are spent for these programs implementation, their results is economically profitable since they allow considerable cost reduction for new materials development.

IMET RAS experience in development and integration of Internet databases (DBs) on inorganic substances and materials properties together with computer-assisted design for new substances based on data mining technologies [7] is a premise for successful accomplishment of materials infrastructure project in Russia. The special Information-Analytical System (IAS) was developed in IMET RAS. It includes the virtually integrated DBs system on inorganic substances and materials properties [8], the subsystems for regularities search in data and new substances prediction and their properties estimation, the knowledge base and other subsystems.

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