Synthetic diamonds, carbide tools, wearproof and anticorrosion products of high-tech ceramics on the base of oxides, carbides, and borides of metals are widely adopted this century. Synthetic diamonds' and cubic boron nitride crystals are in effective use for many fields of production – building industry, mechanical engineering, electronics, well-boring, medicine, food industry and others. The journal provides researchers and practitioners with an opportunity to exchange the latest results in their particular field and to review progress and problems in neighboring fields. Key journal audience: Materials Scientists, Solid-State Physicists, Solid-State Chemists, Electronic Engineers, Electrical Engineers, Mechanical Engineers, Optical Engineers

This journal is devoted to theoretical and experimental studies of the structure and properties of synthetic-diamond and cubic boron nitride single crystals and polycrystals; crystalline and powdered high-melting metals and compounds; high-density, high-tech ceramics; and cemented carbides.

Articles in the journal are grouped under the following headings:

- Physical chemistry and synthesis technology
- Structure and properties
- Tools, powders and pastes
- Machining processes
- Industrial applications

For scientists interested in fundamental investigations, the journal offers such articles as the physicochemical processes of formation and growth and study of mono- and polycrystals, dispersed materials and diamond and diamond-like films in a wide range of temperatures and pressures. Also published are papers dealing with various methods of synthesis. Special attention is paid to finding applications for superhard materials, taking into account their strength, abrasive capacity, thermal conductivity, and electromagnetic and optical characteristics. Thus, a number of articles deal with the use of superhard materials in tools for highly efficient metal machining, boring, grinding, nonmetal machining, etc. Other applications deal with powders and pastes frequently used in high-precision contexts.

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