

Contents

Research of Fullerites Hydrogen Capacity <i>D.V. Schur B.P. Tarasov, Yu.M. Shulga, S.Yu. Zaginaichenko, Z.A. Matysina</i>	1
Physical-Chemical Analysis in Synthesis of Tetrahydroborates and Tetrahydroaluminates of Metals <i>U. Mirsaidov</i>	19
A Novel Negative Electrode Material for MH-Ni Battery at Low Temperature <i>M. Zhao, C. Sun</i>	29
Thermodynamics of Hydrogen Ordering in the Rare-Earth Superstoichiometric Dihydrides <i>I.G. Ratishvili, N.Z. Namoradze</i>	35
The Concentration and Temperature Transition to Superconducting State in fullerides of alkali metals <i>Z.A. Matysina, D.V. Schur, S.Yu. Zaginaichenko</i>	45
Humid Atmosphere Induced Processes of Hydrogen Formation and Embrittlement of Sn-Al Eutectic <i>F. Muktepavela</i>	51
Calorimetric Investigations of Metal-Hydrogen Systems for Intermetallic Compounds of Laves Phase Type <i>E.Yu. Anikina, V.N. Verbetsky</i>	59
The Influence of Hydrogen on Structure and Properties of Titanium Powders <i>O.M. Shapovalova., E.P. Babenko, J.V. Babenko</i>	69
Activation Analysis of the Structural Clustering Transformations in Metal Hydride - Forming Systems <i>V.G. Tkachenko, I.I. Shuljak, A.M. Strutinsky, V.V. Friezel, O.V. Krivik</i>	77
Simulation of Hydride Heat Pump Operation with Reference to Vehicle Refrigerating Devices <i>Yu.I. Shanin</i>	97
Hydrogen Interaction with Alloys of Ti(Zr)-Mn-V Systems <i>T.N. Smirnova, S.V. Mitrokhin, V.N. Verbetsky</i>	107
Influence of Accelerated Electron Beam on Formation of IV Group Metals' Hydrides (Hf-H ₂ System) <i>S.K. Dolukhanyan, V.Sh. Shekhtman, N.N. Aghajanyan, Kh.S.Harutyunyan, A.G. Aleksanyan, H.G. Hakobyan, K.A. Abrahamyan, O.P. Ter-Galstyan</i>	113

Kinetics of the Hydrogen-Isotopes Short-Range Order in Interstitial Solid Solutions h.c.p.-Ln-H(D,T) <i>V.A. Tatarenko, T.M. Radchenko</i>	123
Interaction of TiH _x (x>2) with Solutions of some acids and Alkalies <i>I.M. Astrelin, G.N. Prokofyeva, V.I. Suprunchuk, Yu.V. Knyazev, V.M. Panashenko, I.A. Morozov, R.A. Morozova</i>	133
Fullerene Formation in ARC Discharge <i>N.I. Alekseyev, G.A. Dyuzhev</i>	141
Thermal-Radiation Synthesis of Hydridonitrides on the Basis of Titanium and Zirconium <i>A.G. Aleksanyan, S.K. Dolukhanyan, V.S. Hairapetyan, O.P. Ter-Galstyan, N.L. Mnatsakanyan</i>	151
On Hydrogen Fugacity in Metals under Electrolytic Charging <i>Yu.S. Nechaev</i>	161
High-Dispersed Hydride Phases in RT ₅ - NH ₃ Systems, where R = La, Sm; T = Ni, Co <i>V.N. Fokin, B.P. Tarasov, Yu.M. Shul'ga, E.E. Fokina, I.I. Korobov, A.G. Burlakova, S.P. Shilkin</i>	165
Development of the Physicochemical Basis for Materials Science <i>L.V. Bobukh, K.A. Bobukh</i>	171
Spontaneous Polarization and its Effect on Physical Characteristics of Potassium, Rubidium and Caesium Dihydrophosphates and Arsenates <i>S.Yu. Zaginaichenko, Z.A. Matysina, D.V. Schur, V.A. Chumak</i>	179
Structure of Ti _{0.9} Zr _{0.1} Mn _{1.5} V _{0.3} Ti _{0.2} D _{2.8} <i>T.N. Smirnova, S.V. Mitrokhin, V.A. Somenkov, V.P. Glazkov, B.N. Savenko, V.N. Verbetsky</i>	189
Preparation and Properties of Deuterofullerenes: New Data <i>Yu.M. Shul'ga, B.P. Tarasov, V.N. Fokin, V.M. Martynenko, D.V. Schur, G.A. Volkov, V.I. Rubtsov, G.A. Krasochka, N.V. Chapusheva, V.V. Shevchenko</i>	197
Hydrogen Incorporation in CVD Diamond Films <i>V. Ralchenko, A. Khomich, R. Khmel'nitskii, A. Vlasov</i>	203
Hydrogen Influence on the Nanosized Intermetallics Microstructure Formation in Fe-Mo System <i>T.Yu. Kiseleva, A.A. Novakova, E.I. Hait</i>	213

Phase States of Hydrogen in Metal Palladium <i>N.V. Piskunov, Y.T. Siniapkin, V.M. Kugavchuk, N.A. Protopopov</i>	221
The Investigation of Hydrogen Absorption and Electrochemical Properties of Alloys Ti-Zr-Ni-V-Mn with Laves Phases in Nonstoichiometric Region <i>T.A. Zotov, O.A. Petrii, V.N. Verbetsky</i>	229
Study of Physico-Chemical Processes on Catalyst in the Course of Synthesis of Carbon Nanomaterials <i>D.V. Schur, Z.A. Matysina, S.Yu. Zaginaichenko</i>	235
The Influence of Hydrogen-Thermal Treatment on the Densification and Structure of Nitrides at Sintering <i>R.A. Morozova, I.A. Morozov, T.V. Dubovik, V.M. Panashenko, A.I. Itsenko, N.V. Danilenko</i>	243
Thermal-Radiation Processes in the Zr-Ni-H ₂ System and Synthesis of Hydrides <i>H.G. Hakobyan, S.K. Dolukhanyan, V.Sh. Shekhtman, K.A. Abrahamyan, N.G. Tamamyanyan, N.L. Mnatsakanyan</i>	251
Influence of the Temperature on Hydrogen Interaction with LaNi _{5-x} Co _x (2≤x≤3) <i>E.A. Berdonosova, N.A. Yakovleva, K.N. Semenenko, N.V. Bykova</i>	259
System of CeCo ₂ Ni-H ₂ under Pressure of Hydrogen up to 2000 at. <i>S.A. Lushnikov, S.N. Klyamkin, V.N. Verbetsky</i>	267
Influence of Hydrogenation on Magnetic Anisotropy of R ₂ Fe ₁₇ Single Crystals <i>I.S. Tereshina, S.A. Nikitin, N.Yu. Pankratov, N.V. Tristan, T. Palewski, V.N. Verbetski, A.A. Salamova</i>	273
Kinetics of Hydride Phase Growth in the Area of Structural Defects <i>N.M. Vlasov, I.I. Fedik</i>	281
Application of the Electrochemical Extraction Method to the Study of a Metal Hydride Electrode - Hydrogen System <i>L.G. Shcherbakova</i>	289
Construction Principles of Metal-Hydride Gas Supply Systems for Vacuum-Plasma Installations <i>Yu.F. Shmal'ko, Ye.V. Klochko, M.V. Lototsky, V.N. Borisko</i>	295

<p>Role of Metals Hydrides at Producing of Magnetic Materials Based on Nd-Fe-B System <i>P.A. Manorik, A.A. Pavlyukov, V.Y. Tsivilitsin, O.S. Opanasenko, I.B. Bondar, V.K. Bukhtiyarov, S.V. Demeshko, M.A. Phedorenko, I.V. Trotsuk</i></p>	303
<p>The Action of Intensive Plasma Flows on the Metal Hydride Material <i>V.V. Bobkov, V.N. Borisko, V.V. Chebotarev, I.Ye. Garkusha, G.P. Glazunov, Ye.V. Klochko, M.V. Lototsky, N.S. Poltavtsev, Yu.F. Shmal'ko, R.I. Starovoitov, V.I. Tereshin, I.Yu. Zavaliy</i></p>	309
<p>Use of Hydride Devices in a Vehicle <i>Yu.I. Shanin</i></p>	313
<p>Anthropological Irreversible Change of Interaction between our Planet and the Sun. Role of Hydrogen and Primary Energy Sources <i>Yu.A. Kocherzhinsky</i></p>	321
<p>NEXAFS Spectroscopy for the Investigation of Hydrogen Absorption Properties of Nanostructured Carbon thin Films <i>C.Lenardi, M.Marino, E.Barborini, P.Piseri, V.Briois, S.Maffi, P.Milani</i></p>	327