



INTERNATIONAL CONFERENCE «MEE-2010»

The 6th International Conference «Materials and coatings under extreme conditions: investigation, application, environmentally appropriate technologies for manufacture and recycling of products» took place in Big Yalta, Crimea, Ukraine, in September 20–24, 2010. It was dedicated to the 80th birth anniversary of Viktor I. Trefilov, a well-known scientist and materials engineer.

The Conference was organized by the National Academy of Sciences of Ukraine (NASU), Russian Academy of Sciences (RAS), National Academy of Sciences of Belarus (NASB), Ukrainian Society for Materials Science, I.M. Frantsevich Institute of Problems of Materials Science, Joint Institute of High Temperatures of the RAS, A.A. Baykov Institute of Metallurgy and Materials Science of the RAS, N.E. Bauman Moscow State Technical University, A.V. Lykov Institute of Heat and Mass Transfer of the NASB and INTERM Ltd. (Ukraine).

The Conference was held under the auspices of the Headquarters of United States Air Force in Europe, Secretariat of European program EUREKA, JNR Global and Federation of European Societies for Materials Science. European Office of Airspace Research and Development, Air Force Office Scientific Research, United States Air Force Research Laboratory, U.S. Office of Naval Research Global, I.M. Frantsevich Institute of Problems of Materials Science of the NASU, National Academy of Sciences of Ukraine, companies «Virial» (St.-Petersburg, Russia), «Diskom» (Kiev, Ukraine) and «Eltekhmash» (Vinnitsa, Ukraine) were sponsors of the Conference.

More than 150 scientists, researchers, post-graduate students and engineers of world leading research centres, research institutes, universities, academies, branch laboratories and other organizations from 17 countries participated in the Conference work.

The Conference was opened by a welcoming speech of academician of the NASU V.V. Skorokhod. He wished all the participant a successful work and business-like co-operation as well as read out the tasks of the Conference and stated organizing issues.

The problems of the Conference were discussed in nine sections:

- *A*: Principles of designing of the materials and coatings for operation under extreme conditions;
- *B*: Scientific principles and computer modeling of the processes for obtaining materials and coatings operating under extreme conditions;
- *C*: Perspective technologies for obtaining and joining of the materials and parts operating under extreme conditions;
- *D*: Structure and properties of the materials and coatings for operation under extreme conditions;

- *E*: Special session «Heat-protection coatings»;
- *F*: Experimental results of application of the materials and coatings under natural extreme conditions;
- *G*: Possibilities and up-to-date technologies of recycling of industrial waste in order to obtain structural, heat-insulating, covering and other materials;
- *H*: Research and organization and information issues of cooperation of the materials engineer scientists;
- *I*: Round-table discussion «Effective transfer of the technologies — a catalyst of innovative development of the society».

The themes of papers, being under consideration in sections B and C, included the welding technologies and technologies classified as related to welding as well as structures of the materials and their properties, obtained through welding heating. The following papers, in our opinion, can be interesting for the welding specialists: «Obtaining of titanium-based functionally gradient coatings by laser surfacing method» (V.K. Narva, A.V. Marani, Moscow Institute of Steel and Alloys, Russia); «Advantages of electron beam technology in development of reinforcing coatings» (N.K. Galchenko, S.I. Belyuk, K.A. Kolesnikova, Institute of Strength Physics and Materials Science of RAS SD, Tomsk, Russia); «Technology and equipment for diffusion welding of high-precision parts on dissimilar materials» (A.V. Lyushinsky, OJSC «Ramenskoe Instrument Engineering Design Bureau», Russia); «Development of resource-saving repair technology for the turbine rotor blades on alloy KhN65VMYuT (EI893)» (Yu.P. Tarasenko, O.B. Berdnik, V.A. Sorokin, Nizhny Novgorod Branch of the A.A. Blagonravov Institute of Machine Science of the RAS, Russia); «Damageability of long-term running welded joints of the steam lines» (V.V. Dmitrik, S.N. Bartash, NTU-KhPI, Kharkov, Ukraine) and series of others.

After plenary papers the participants of the Conference listened to oral presentations and examined poster papers. In total around 200 papers and oral presentations were made.

In course of the Conference work the ways of further development of the materials science for solving specific tasks on development of the structural materials and coatings and their application under extreme conditions were discussed. The participants of the Conference exchanged scientific information, established business contacts and drew up the plans of joint scientific activities.

In our opinion, the Conference was of interest not only for the materials science researchers, but also for the welders studying structure of the materials and coatings made by means of welding as well as related technologies.

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