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**Grabchenko's International Conference
on Advanced Manufacturing Processes**
September 10-13, 2019 | Odessa, Ukraine

Book of Abstracts

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Grabchenko's International Conference
on Advanced Manufacturing Processes **2019**

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Odessa
2019

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Advanced Manufacturing Processes: Book of Abstracts of the Grabchenko's International Conference on Advanced Manufacturing Processes, Odessa, Ukraine, September 10-13, 2019 / Volodymyr Tonkonogyi, Vitalii Ivanov, Ivan Pavlenko, Oleksandr Liaposhchenko (Eds.). – Sumy : IATDI, 2019. – 104 p.

This book reports on topics at the interface between manufacturing engineering, mechanical engineering, and materials science. It pays special attention to advanced manufacturing processes, CAD/CAE/CAPP/CAM systems for design, manufacturing and assembling technologies, information management systems for manufacturing enterprises, automation and robotics, intelligent manufacturing systems and Industry 4.0 strategy. Engineering design and optimization, computational techniques in machine mechanics and dynamics, numerical methods for dynamics, acoustics, and vibration, as well as methods and technologies for additive manufacturing, resource-saving, and energy-efficient technologies, are also among the topics discussed in the book. Based on the Grabchenko's International Conference on Advanced Manufacturing Processes (InterPartner-2019), held on September 10-13, 2019, in Odessa, Ukraine, the book promotes research activities to intensify scientific information interchange between researchers, developers, engineers, students, and practitioners. The conference is an ideal platform for people to share views and experiences in Engineering related areas.

Structural Optimization of Technological Layout of Modular Machine Tools

Ihor Yakovenko, Alexander Permyakov, Olga Prihodko, Yevheniia Basova and Maryna S. Ivanova

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Estimation of Locating Error Using the Dimensional Chain Method

Yurii Yarovy, Boris Tkachenko and Inna Yarova

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Visual Product Inspection Based on the Deep Learning Methods

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Harmonization of the EU and Ukrainian Normative Documentation: Case Study on Determination of Barium Content in Mineral Waters to Develop Quality and Safety Criteria

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Study of Energy Ions, their Varieties and Charge on Temperature, Rate of Temperature Rise, Thermal Stresses for Nanostructures on construction materials

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The Volume of the Nanocluster and Its Depth at Action of Ions of Different Energies, Varieties and Charges on Titanium Alloy VT-1

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Influence of Mechanically Activated Fillers of the Different Chemical Nature on the Tribotechnical Properties of PTFE-composites

Kristina Berladir and Oleksandr Gusak

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Harmonization of the EU and Ukrainian Normative Documentation: Case Study on Determination of Barium Content in Mineral Waters to Develop Quality and Safety Criteria

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The article presents the results of a study on the development of a criterion for the quality and safety of barium content in mineral waters in order to harmonize regulatory documents of the European Union and Ukraine. To develop metrological support for the analysis, it is justified to select the optimal method for determining the content of barium in waters – atomic absorption spectrometry. Validation of the methodology confirmed the conformity of metrological characteristics with the requirements of Directive 2003/40/EC. For the first time, barium content studies in 36 mineral waters of Ukraine were carried out. The concentration of barium in mineral table waters (TDS) ≤ 1.0 g/l ranged from 0.058 mg/l to 0.8846 mg/l, i.e. < 1.0 mg/l (criteria according to Directive 2003/40/EC). The barium concentration range in medicinal-table mineral waters varies from 0.0443 mg/l to 3.7013 mg/l. In 10 of them, the concentration of barium was > 1.0 mg/l, did not comply with Directive 2003/40/EC. They can negatively affect a human person when used for drinking. Using the correlation and factor analysis, the dominant factor in the formation of the chemical composition of the studied mineral waters was determined, which included bicarbonates, sodium and potassium, total mineralization, orthoboric acid and barium. Proposed are the criteria for barium concentration assessment in the natural mineral and natural therapeutic and prophylactic waters of Ukraine (1.3 mg/l and 5.0 mg/l respectively).

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