Preface

Valery Dyadichev^{1,*}

¹V.I. Vernadsky Crimean Federal University, Simferopol, Crimea, Russia

International Scientific Practical Conference «Materials science, shape-generating technologies and equipment 2020» (ICMSSTE 2020) was held in Yalta, Russia from 25 to 29 May 2020.

ICMSSTE 2020 is organized by the: Federal State Autonomous Educational Institution of Higher Education «V. I. Vernadsky Crimean Federal University»; Federal State Autonomous Educational Institution of Higher Education «Sevastopol State University»; Federal State Autonomous Educational Institution of Higher Education «Polzunov Altai State Technical University»; Limited Liability Company “Engineering Centre The Best Available Technologies”.

The Conference provides scientists, industry experts and business representatives from various countries with the opportunity to summarize and share innovative and latest scientific research developments in materials science, material properties, new materials and products manufacturing technologies, industrial equipment and tools, to discuss the development of nanomaterials and nanotechnologies, new equipment and technologies.

In addition, the Conference aim is to establish new scientific relations between conference participants with the purpose to integrate science and business of the various countries, in order to conduct further joint researches, to implement some new joint research projects and introduce the scientific results into the real production industry and business.

ICMSSTE 2020 proceedings cover these topics: Materials science and physical chemistry of materials; Metallic materials: structure, properties, equipment; Non-metal materials: structure, properties, equipment; Composite and powder materials; Coating; Nanomaterials; Building materials, properties, technologies, equipment; Biological materials: structure, properties, technologies, equipment; Medical materials: structure, properties, technologies, equipment; Modeling the structure, properties of materials; Material processing; Theory and technology of welding production; Additive technologies.

This year the organizing committee was forced to lead the conference online, in the virtual form, in connection with the current situation with the epidemiological situation in the world and the impossibility of the personal presence of participants from Russia and other countries in the city of Yalta, because of travel restrictions. The organizing committee decided to hold a conference with online reports of the participants, and not to cancel or a postpone the holding of conference in order to enable scientists to present the obtained topical scientific results and share them with the colleagues, since the science development is important and especially urgent in times of general isolation and problems with personal international communication.

So, the Conference was held on the online platform – “Zoom”, with the online reports of authors, with the video and visual presentation of reports, with the opportunity to ask the questions to each other and discuss the scientific results.

The organizers was located in Yalta and some of them in Simferopol, where is located the main unit of V.I. Vernadsky Crimean Federal University. Some of organizers and participant was located at home, because of remote work at home.

The Conference model was as for full-time participation, there were three speeches in the plenary session, all reports were held in accordance with the sections of the conference, each author had from 10 to 15 minutes for his report and the answer to questions from other participants. Also there was time at the ending dates of the conference for general discussion and consideration of poster presentations of participants who were unable to personally submit a video report.

Overall, the 206 authors submitted papers for ICMSSTE 2020, from 6 countries: Russia, Ukraine, Czech Republic, Iraq, Vietnam, Kazakhstan. The Conference Program, video from online reports and presentations of the research articles are available on the Conference website.

Virtual form of reports did not prevent authors from actively participating and establishing new relations and experience exchange. Authors and researches from different countries and organizations, including companies of real sector of the economy, showed the great interest and took an active part in the conference. We look forward to

* Corresponding author: mr.dyadichev@mail.ru

further personal meetings and face-to-face reports by our fellow researchers during the next Conference ICMSTE 2020.

Editors want to thank the international scientific committee and the reviewers for their great contribution to the work and organization of the Conference. After the peer review process, the submitted papers were selected on the basis of originality, significance, and clarity for the purpose of the Conference.

The organizing committee is very grateful to all the participants and authors of the conference, who presented the results of their research in various fields of materials science, technologies and equipment on our Conference.

Prof., Conference Chair, Valery Dyadichev, V.I. Vernadsky Crimean Federal University, Russia

Conference foto – online reports of conference participants:

Международная научно-практическая конференция «ICMSTE 2020»

Исследование контактного электрического сопротивления покрытий на основе сплавов тугоплавких металлов Co-W, Co-Mo, Ni-W, Ni-Mo

(a)

(b)

Структурная схема стенда испытаний контактного сопротивления покрытий (a) и фотография эталонного электрода (b):

1 - основание; 2 - нагрузка; 3 - эталонный электрод; 4 - измерительный прибор (вольтметр); 5 - источник постоянного тока; 6 - исследуемый образец

- Ток: 50 мА.
- Сила нажатия электрода (F_p): в пределах 0,2 - 1 Н

В качестве эталонного электрода использовался зонд, изготовленный из лагуни с формой рабочей поверхности в виде сферы радиусом 1,5 мм

3

Influence of pH liquid for mixing gypsum binders on the strength of gypsum composites

Tex.: +7 (904) 351 78 76
e-mail: 79043517876@yandex.ru

Improving the characteristics of composite gypsum materials still remains an urgent topic

Improving the characteristics of composite gypsum materials still remains an urgent topic, due to the low strength and water resistance of the gypsum binder. Work is primarily associated with synthesis of the structure of the resulting composite