# Magnetohydrodynamics 57, 1 (2021)

## GENERAL AND THEORETICAL PROBLEMS



## APPLIED PROBLEMS



## Selected papers of the conference ``ACTUAL PROBLEMS OF ELECTROTECHNOLOGY (APET-2020)'', Yekaterinburg, Russia, October 1--2, 2020

### Preface

**The Scientific School of Applied Magnetohydrodynamics in Sverdlovsk (now Yekaterinburg), Russia, has a long history, comparable to the history of the Magnetohydrodynamics Journal. M.G. Rezin, a professor of the Ural Polytechnic Institute (UPI) published his article ``Advances in Electromagnetic Stirring of Liquid Metals'' in 1965 just in the second issue of the Magnetohydrodynamics Journal. After that, the institute began to intensively develop the scientific field of magnetohydrodynamic (MHD) machines for different metallurgical applications. In the 2000s, the first conferences "Actual Problems of Electrotechnologies" were held in Yekaterinburg with the participation of scientists from the Czech Republic, Poland and Germany. One of the main problems discussed there were the problems of applied magnetohydrodynamics in metallurgy. These issues were considered mainly from the point of view of thermal and electromechanical effects on liquid metals. The Actual Problems of Electrotechnology (APET-2020) conference was held online and has become a new important step towards confirming the high international level of research in this field. During the APET-2020 conference, important problems of electromagnetic stirring, transport and separation of liquid metal were discussed. The special issue dedicated to the APET-2020 conference presents papers selected among APET-2020 presentations. We would like to thank the Ural Power Engineering Institute and all the reviewers who took part in the preparation of this special issue. E. Shvydkiy F. Sarapulov K. Bolotin Guest Editors**