

Preface

The presented special edition is dedicated to some actual issues in engineering practice in mechanical engineering.

The bond-based peridynamic model for tensile deformation and fracture of polycarbonate and polypropylene, investigation of strength concrete materials using pozzolanic additives as an additives replacement and development of a cost-effective twin-disc test rig for railway wear simulation in tribological research are the topics of the first chapter.

The second chapter contains a series of articles on a review of the features of materials processing technologies such as electrical discharge machining and powder bed fusion.

The next chapter is dedicated to engineering research on machining tools for the metal forging and cutting processes.

The latest chapter includes the research results and design solutions in mechatronic devices for energy harvesting and the use of solar energy.

The special edition will be interesting to a wide range of engineers and researchers in the field of machinery.