

# Special Issue

## Top Quark at the New Physics Frontier

### Message from the Guest Editors

The top quark is the most massive elementary particle identified to date: not only does it have a privileged Yukawa coupling to the Higgs boson, but also its mass is significantly higher than that of the Higgs boson. Owing to its large mass, the top quark decays before hadronization, making the study of “bare” quark properties possible in experimental settings. Therefore, top quark physics simultaneously pushes the frontier of quantum chromo-dynamics, electroweak, and flavor physics. Of particular relevance is the fact that, taken together, the top quark and the Higgs boson modify the tree level SM processes through radiative corrections. Such corrections are potentially sensitive to new physics contributions from energy scales larger than that which the current accelerators can achieve. The aim of this Special Issue of *Universe* is to provide a comprehensive review of the current status and prospects of top quark physics at the LHC and possible future colliders. We especially welcome articles that emphasize where the present understanding is incomplete, and suggest new directions for research in this area.

### Guest Editors

Dr. Efe Yazgan

Department of Physics, National Taiwan University, Taipei 10617, Taiwan

Dr. Pedro Ferreira da Silva

CERN, PH-UCM Bat 40 3-A32 E24410, CH 1211 Geneva 23, Switzerland

### Deadline for manuscript submissions

closed (31 May 2023)



# Universe

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*Universe*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[universe@mdpi.com](mailto:universe@mdpi.com)

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## About the Journal

### Message from the Editor-in-Chief

The multidisciplinary journal *Universe* is aiming to follow and, hopefully, to lead to the largest extent as possible the ever-self renovating threads which weave mathematical theories with our understanding of the magnificent natural world. On behalf of all the distinguished members of the Advisory and Editorial Boards, I extend my welcome to this journal and look forward to hearing from the interested contributors and learning about their valuable research.

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### Editor-in-Chief

Prof. Dr. Lorenzo Iorio  
Ministero dell' Istruzione e del Merito, Viale Unità di Italia 68, 70125 Bari,  
Italy

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