



Contribution ID: 215

Type: **not specified**

A roadmap for astroparticle theory in Europe

Important and challenging questions remain unanswered about the fundamental constituents of Nature, their interactions, and the evolution of the Universe and its extreme environments. Astroparticle physics, lying at the interface between particle physics, astrophysics and cosmology, aims to provide vital clues to answer them. A vibrant effort in theoretical astroparticle physics is needed to support, fully exploit and guide the ambitious experimental and observational programme in Europe and worldwide. We stress the importance of a balanced programme of theoretical, experimental and observational activities, in synergy with and complementary to the collider programme at CERN, to answer these challenging questions, exploring a broad range of physics scales and phenomena. - This contribution has been prepared by the EuCAPT Strategy Task Force, based on the input from the European astroparticle theory community and with the endorsement by 430 astroparticle theorists.

Authors: IBARRA, Alejandro (Technische Universitat Munchen, Germany); PILAFTSIS, Apostolos (University of Manchester, UK); RAJANTIE, Arttu (Imperial College London, UK); PROVIDENCIA, Constanca (University of Coimbra, Portugal); MARSH, David (University of Stockholm, Sweden); WANDS, David (University of Portsmouth, UK); URBAN, Federico (CEICO, Institute of Physics of the Czech Academy of Sciences, Czech Republic); OIKONOMOU, Foteini (Norwegian University of Science and Technology, Norway); CALORE, Francesca (Laboratoire d'Annecy de Physique Theorique CNRS, France); TAMBORRA, Irene (Niels Bohr International Academy & DARK, Niels Bohr Institute, University of Copenhagen, Denmark); TURNER, Jessica (Durham University, UK); CAMALICH, Jorge Martin (Instituto de Astrofisica de Canarias & Universidad de La Laguna, Spain); ROSA, Juan G. (University of Coimbra, Portugal); GARCIA-BELLIDO, Juan (Instituto de Fisica Teorica, Universidad Autonoma de Madrid, Spain); CLOUGH, Katy (Queen Mary University of London, UK); KOYAMA, Kazuya (University of Portsmouth, UK); BARTOLO, Nicola (Universita' di Padova and INFN Padova, Italy); SAFFIN, Paul (University of Nottingham, UK); SCHWALLER, Pedro (Johannes Gutenberg-Universitat Mainz, Germany); MILLINGTON, Peter (University of Manchester, UK); PASCOLI, Silvia (Alma Mater Studiorum, University of Bologna & INFN, Bologna, Italy); BRINGMANN, Torsten (University of Oslo, Norway); KEUS, Venus (Dublin Institute for Advanced Studies, Ireland); BOSNJAK, Zeljka (University of Zagreb, Croatia)