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AstroParticle Observatories and GEoscience Innovative Actions (APOGEIA)

Tuesday 7 June 2022 14:50 (30 minutes)

The main objective of APOGEIA is the development of three types of interdisciplinary and mutually related groundbreaking technologies: the use of fibre cables or mobile systems as distributed sensors, the use of particle detectors as prospection instruments, and the extremely low noise sensors developed in the European (worldwide) underground laboratories. These technologies build the capacity to deploy large sensor networks at extreme and hostile sites (e.g, volcano, underground, deep sea, space) but also serve as climate monitoring and natural catastrophe alert systems of urban areas. They also profit from extreme timing, advanced digital solutions, and artificial intelligence developments coming from the elaboration of leading astrophysics / astroparticle and geoscience / atmospheric Research Infrastructures (RI). These two domains started interdisciplinary synergies 10 years ago, paving the way to innovative solutions to societal challenges (e.g. climate change and catastrophe alerts) and new industrial applications, products and services. APOGEIA will further promote these synergies and lead to far- reaching applications for the benefit of both scientific fields and the society. It proposes the development, coordination of the many European separate efforts, preparation of the next generation RI and in fine industrialisation of the above sensor systems, their dense synchronised networking and development of advanced digital solutions for RI upgrade and monitoring, enabling solutions even for the most demanding scientific and societal challenges.

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