

MAGIC27 Workshop (Matter, Astrophysics, Gravitation, Ions and Cosmology)



Monday, 5 April 2027 - Thursday, 8 April 2027

Imbituba, S.C., Brazil

Scientific Program

Matter

New phenomena and new states of matter in the Universe
High energy particle physics and astroparticles (theory and experiment)
QCD matter at finite temperature and density
Heavy flavors, quarkonia, and strangeness production
Antimatter in the Universe
Neutrino physics

Astrophysics

White dwarfs, neutron stars, pulsars and black holes (experimental)
Gamma-ray emission
High energy cosmic rays
Gravitational waves

Gravitation

General relativity
White dwarfs, neutron stars, pulsars and black holes (theory)
Strong magnetic fields in compact stars
Strange matter, strange stars, quark stars and magnetars
Modified gravity theories

Ions

Heavy ion collisions and the formation of the quark-gluon plasma
Lattice QCD and heavy-ion collisions
Ultra-peripheral collisions

Cosmology

Dark matter (theory, observations, detection)
Dark energy
Multimessenger cosmology (gravitational waves, cosmic rays, neutrinos)
Inflation and the primordial universe
Large Scale Structure