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The European Solar Telescope: Current Status and Scientific Potential

The European Solar Telescope (EST) is a cutting-edge solar observatory that with its multi-wavelength focal plane instruments will study in detail the physical processes that occur in the magnetized plasma of the solar atmosphere and that are at the origin of space weather, and the causes of solar variability. a 4.2-meter primary mirror, the EST will be optimized to study the intricate interplay of magnetic fields within the solar atmosphere complementing the US DKIST telescope and the major space missions in heliophysics. By employing advanced imaging, spectroscopy, and spectropolarimetry techniques, the EST will provide unprecedented insights into the thermal, dynamic, and magnetic properties of the solar plasma across a wide range of scales. Italy is a key scientific and techological contributor to the EST project, playing a significant role in the development of various critical subsystems. The establishment of the European Solar Telescope Canarian Foundation (EST-CF) and the upcoming entry of Italy into EST-CF marks an important milestone, signifying the project's progression towards the goal necessary to sustain and keep alive the entire European and Italian heliophysics community.

Presenter: Prof. BERRILLI, Francesco (University of Rome Tor Vergata, Department of Physics) Session Classification: Metis & Friends