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Recent results of the Pierre Auger Observatory

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The Pierre Auger Observatory measures extensive air showers induced by ultra high energy cosmic rays using a hybrid detector (fluorescence and surface detector). The Pierre Auger Observatory has been designed for a high statistics, full sky study of cosmic rays at the highest energies. Energy, arrival direction and mass composition measurements are investigated in order to illuminate the mysteries of the most energetic particles in nature. The southern part of the Observatory, completed in 2009, has been continuously taking data since 2004. The results based on this data set are presented. An overview of the anisotropies in the arrival directions of the ultra high energy cosmic rays will be given as well as an update of the energy spectrum and an update of the upper limit on the cosmic-ray photon fraction. The mass composition of the ultra high energy cosmic rays will be presented more in details based on the hybrid data set, currently amounting to almost four thousand events above 10^{18} eV.

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Classification de Session: Auger and the radio projects, reviews and results