

# Performance of the 433 m surface array of the Pierre Auger Observatory

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Flash talk



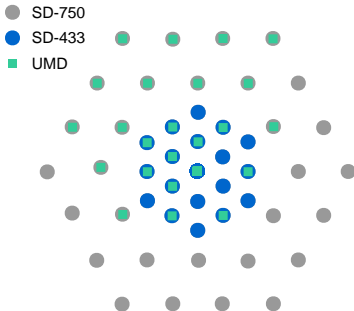
# The array

## The new array:

- is the enhancement of the surface array of the Pierre Auger Observatory
- consists of 19 water-Cherenkov detectors spaced at 433 m
- complements the existing 750-m and 1500-m ones
- reaches energies down to 10 PeV

## Why is it important?

- It gives Auger the capability to observe with a surface detector the second knee of the cosmic-ray spectrum
- It expands the search for ultra-high energy photons coming from the Galactic Center



# We present

the first results of the 433 m array after seven years of data taking

- the lateral distribution function
- an optimal distance of 300 m to measure the energy
- the angular resolution as function of the energy

an evaluation of its performance from simulations

- full efficiency threshold above 50 PeV for cosmic-rays arriving at less than  $45^\circ$  of zenith angle

These analysis will set the foundations for extending the SD-oriented research lines in Auger down to  $10^{16}$  eV

