Andalusian Astrophysics to access the most powerful energy source of the Universe

LOCATION: Jaén
DURATION: 1'46"

SUMMARY: A team from the University of Jaén is working on the design of the access tower of the Cherenkov Telescope Array. This is the largest telescopes network in the North hemisphere, headquartered in La Palma island, and will allow scientists to study gamma rays: the most powerful energy source of the Universe. The access tower is an instrument that gives stability to the telescope chamber and eases the reparation of the equipment in case of failure. Collaborating in its construction will allow these scientists to have access to the collected data.

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This team from the University of Jaén is working on the design of the access tower of the Cherenkov Telescope Array. This is the largest telescopes network in the North hemisphere, and will allow scientists to study gamma rays: the most powerful energy source of the Universe.

JOSEP MARTÍ
UJA Astrophysicist

"That is going to revolutionize this research field due to its sensitivity and angular resolution."

That's how this telescopes network, headquartered in La Palma, will be. The collaboration of this team is essential to provide the telescope chamber with the stability needed to be operative under any circumstance. It is a 3.5 meters by 3 metres structure that weights more than two tons.

MARIÁN GARRIDO
UJA technical engineer

"What is this tower for? For the setting up, for the maintenance of the chamber too, and to act as a support in adverse weather conditions. It is a structure that… is necessary for the installation of the telescope chamber."

The University of Jaén is the only one in Andalusia that collaborates in this international project, in which 1,200 scientists from over 30 countries are involved. Their contribution will give them access to information about these gamma rays emissions, which are invisible to the human eye and only last a few nanoseconds.

PEDRO LUQUE
UJA Astrophysicist

"Right now it is like finding a needle in a haystack, because there are many possible sources and only one of them is generating that gamma emission."

JOSEP MARTÍ
UJA Astrophysicist

"These energies are, for example, similar to those that the renowned hadron collider located in Switzerland is producing artificially, by making beams of particles collide… The same levels of energy can be produced by the Universe for natural causes, and these are the kind of phenomena that we want to study."

Studying them will help us to better understand the universe and explain issues such as dark matter or black holes.

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