



## Glow under a Starry Firmament

Earth is subjected to continuous bombardment. At any point in time, somewhere in the depths of the universe, a star explodes or a black hole ejects gigantic gas clouds from the core of a distant galaxy. These aggressive events are heralded by gamma rays, which travel straight through the universe and eventually impact on the Earth's atmosphere. But this is the end of the line – fortunately for all life, as the energy dose would be lethal in the long term. However, the gamma light doesn't vanish completely into thin air – a lucky break for astronomers, who can then use it to investigate the cosmic messengers. The radiation leaves its traces in a cascade of particles high above the ground. In the process, a large number of elementary particles are created, which generate Cherenkov radiation – blue flashes that last only one billionth of a second and can't be seen with the naked eye.

In order to record this celestial light, researchers built the four H.E.S.S. telescopes in the Khomas Highland in Namibia several years ago – and they are now converting this quartet into a quintet. H.E.S.S. II is the name of the new dish, which our picture shows bathed in moonlight as it stretches upward like a steel pyramid into the night sky. With a diameter of 28 meters, it roughly corresponds to the area of two tennis courts. And this giant weighs in at no fewer than 580 tons; its camera eye alone weighs three tons. The five scouts of the High Energy Stereoscopic System record the blue flashes with all the tricks of the astronomical observation trade. Securing the evidence in the data then leads to the scene of the crime, as it were: to the source of the radiation. Thus, the astronomers at the Max Planck Institute for Nuclear Physics in Heidelberg, which played an important role in the development and design of H.E.S.S. II as well as coordinating the installation work, also play the role of detectives. Their efforts will soon enable us to better understand the cosmic particle catapults, such as supernovae and black holes.