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The Trinity-One PeV-Neutrino Telescope

Following the Trinity Demonstrator, Trinity One will be the first of the 18 Cherenkov telescopes that make up the Trinity PeV-Neutrino Observatory. Located on Frisco Peak in Utah, Trinity One has the capability to observe 64% of the sky, allowing it to detect potential neutrino point sources with unprecedented sensitivity, ranging from 1 PeV to 10 EeV. We outline the design of Trinity One, which features a 60 m² light-collection surface and the ability to rotate in azimuth. It has a field of view measuring 5 degrees by 60 degrees, which is equipped with a silicon photomultiplier camera with a resolution of 0.3 degrees. Utilizing the design of Trinity One, we present performance calculations in relation to various source classes.

Collaboration(s)

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