

Workshop on Machine Learning for Analysis of High-Energy Cosmic Particles



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Contribution ID: 6

Type: **Talk**

A graph neural network reconstruction for the IceAct telescopes

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Situated at the geographic South Pole, the imaging air shower telescopes IceAct observe the atmosphere above the IceCube Neutrino Observatory. Therefore, the IceAct telescopes measure the electromagnetic air-shower development complementary to the air shower at the surface with IceTop and the high-energetic muonic component measured by the in-ice detector. Currently, three IceAct telescopes are installed and have shown to operate in the harsh conditions at the South Pole successfully. The telescope camera consists of 61 silicon photomultipliers (SiPMs) with a hexagonal light guide glued to each SiPM. A graph neural network is used to reconstruct the air-shower properties of the camera images. The graph gives great flexibility to do a combined analysis of several telescopes and other detector components. The current status of the reconstruction method is presented.

Type of Contribution

talk

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