

The IceCube experiment

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Abstract:

After a short introduction about the principles and goals of neutrino astronomy the largest neutrino telescope presently under construction, the IceCube detector at the South Pole, will be described in some detail.

After completion at the end of this year IceCube will consist of 5120 Digital Optical Modules (DOMs), which instrument a volume of about a cubic kilometre in the Antarctic ice shield at a depth between 1450 m and 2450 m.

Construction and deployment details of the DOMs will be discussed and it will be explained, how the rare neutrino interactions in the ice can be found and classified using these devices.

1200 DOMs have been assembled and extensively tested at DESY in Zeuthen. The corresponding procedures and results will be shortly displayed.

Finally some early IceCube physics results will be shown and the need for even larger detectors will be mentioned.