

Project Activities

Following the successful deployment of the final stage of the AMANDA-II detector in January 2000, the collaboration focus has shifted to the completion of the analysis of all the detector data. Concurrent with the completion of the 1997 data analysis publications, analysis of the 1998/99 (AMANDA-B13) and 2000/2001 (AMANDA-II) data sets in progress.

1998/99 data The filtering of the 1998/99 data sets is in progress. The analysis methods developed in the B10 analysis will be used to reduce these data, which will triple the statistics of the original B10 analyses.

2000 data The 2000 data were returned from the South Pole in late 2000. The completion of the level 1 filtering of these data is imminent, a level 2 filtering scheme is ready, and determination of final neutrino cuts is well advanced. Throughout this process, the experience and techniques developed throughout the B10 analysis have allowed for a rapid, and simple, processing scheme for these data. The simplification of the data reduction techniques and cuts has been helped greatly by the larger size of the 19-string AMANDA-II detector. First indications are that the rate of observed atmospheric neutrinos will be of the order 4-5 events per day, and that sensitivity to extra-terrestrial source will be significantly improved. Once the data have been reduced, the first results from dedicated searches for excesses from point sources and gamma-ray bursts will follow quickly. The supernova system will achieve 97% coverage of the galaxy.

2001 data During the austral summer of 2000, sophisticated web-based detector monitoring and an on-line filtering system were introduced into the data flow chain at the south pole. The continuous monitoring and subsequent correction of detector problems means that the on-line filtered level 1 data, transferred via satellite on a regular basis, are of high quality. Some of these data have been processed through the higher level of the analysis chain. This work will eventually pave the way for real-time, automated data reduction to high analysis levels, from where for instance sky plots of the neutrino arrival directions can be produced in real time.