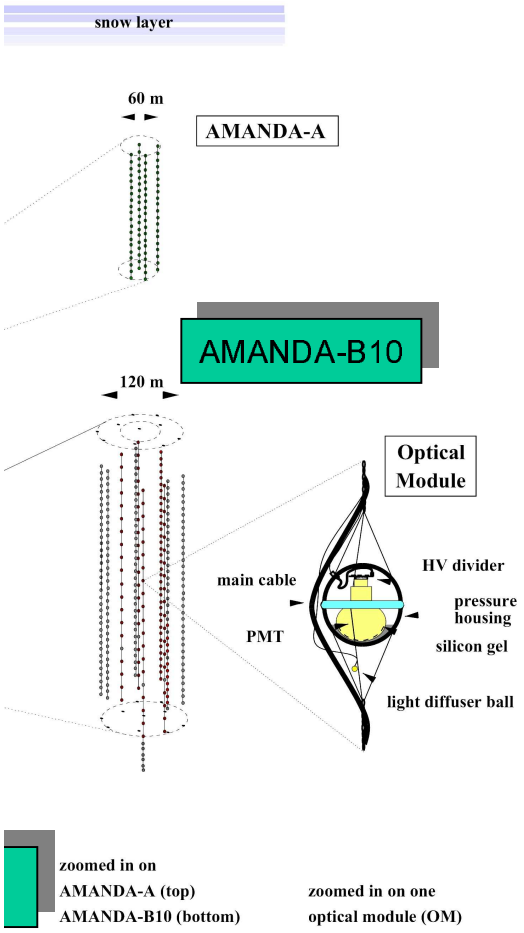
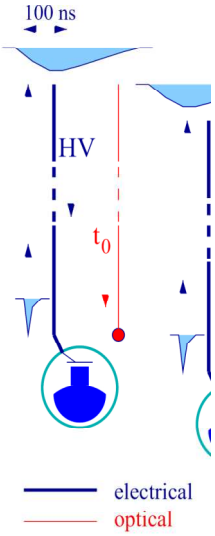


AMANDA-II Detector

- Largest High Energy Neutrino-Detector ever built:An open Under-Ice Cerenkov Detector for high energy muons and showers.
- 19 vertical strings with 677 Optical Modules (OM): 8 inch PMTs with analog pulse transmission to surface.
- Construction started in fall 1995, full detector commssioned in early 2000.
- Different technologies applied:
  - strings 1-10: analog electrical pulse transmission
  - strings 11-19: analog fiber pulse transmission
  - 1 test string with Digital OM technology (IceCube prototype)



The various analog and fiber readout m module (from left to

Results obtained with the10 string detector AMANDA-B10 (1997 data)

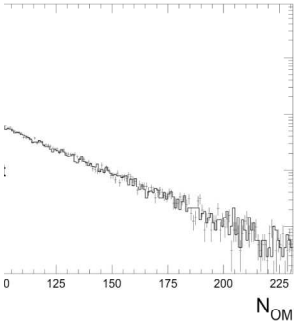
- Isolation of 325 atmospheric ν_μ achieved - proof of performance (Nat
- Limits on flux of HE diffuse ν_μ/ν_e-flux (AGN) - HE2.03
- Limits on ν-flux from point sources and GRB and UHE-ν - HE232/23
- Limit on WIMPs, on relativistic magnetic Monopoles and galactic Sup

alysis

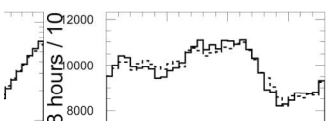
igger (>23 OMs in 2.5 µs) and local cluster trigger
EAS-array SPASE
TB raw data in ca. 250 run days in 2000

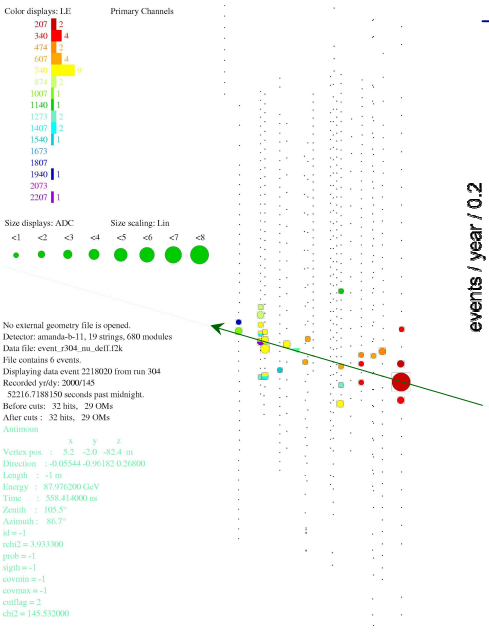
on at trigger and higher ν-cut levels
MTs (n_{OM}), angular-distributions, pass.-rates fit well
& vertical hit structure under study (ice, noise)

AMANDA-II/2000 has started.
s developed.



er event, n_{OM}(dots- exper.,

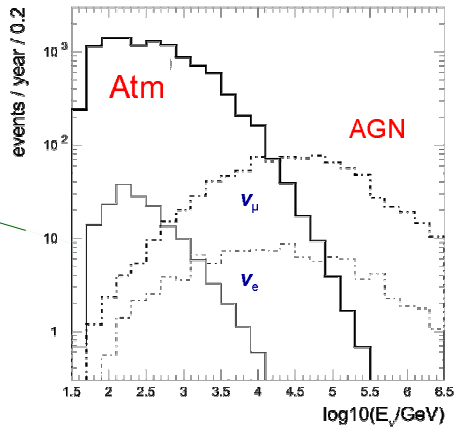
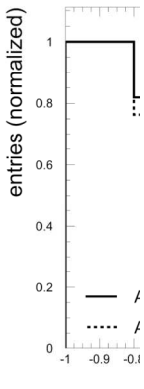




Signal Expectation

Astrophysical sources: AGN, GRB, SN-shells, topolo
with spectra much harder than ν's generated in t

Assume a diffuse AGN E^{-2} spectrum: $10^{-6}\ E^{-2}$ GeV
→ Trigger level acceptance of ν_μ and ν_e Charged C
and Neutral Current (NC) interactions:

Triggered events / year

	Atmospheric		AGN
ν_μ	11000 (CC)	130 (NC)	853 (
ν_e	162 (CC)	9 (NC)	103 (