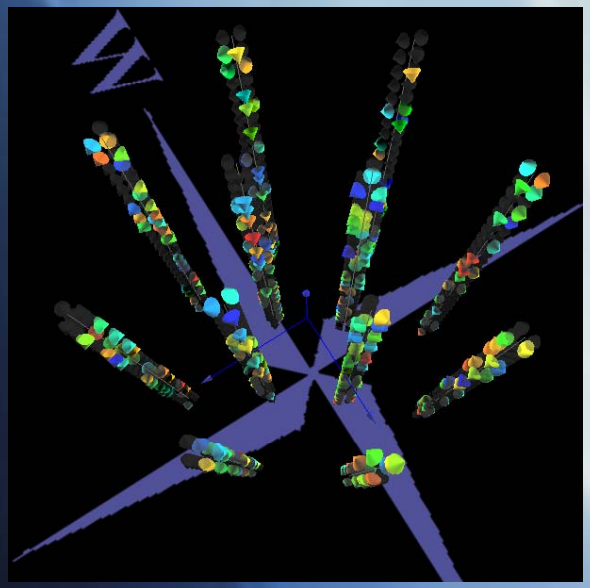
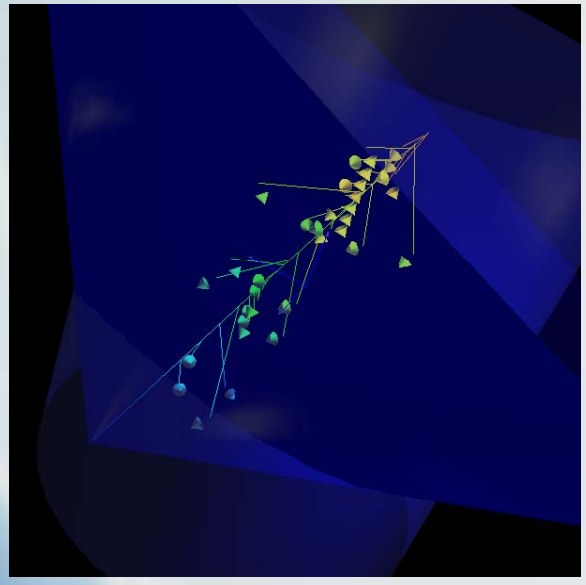
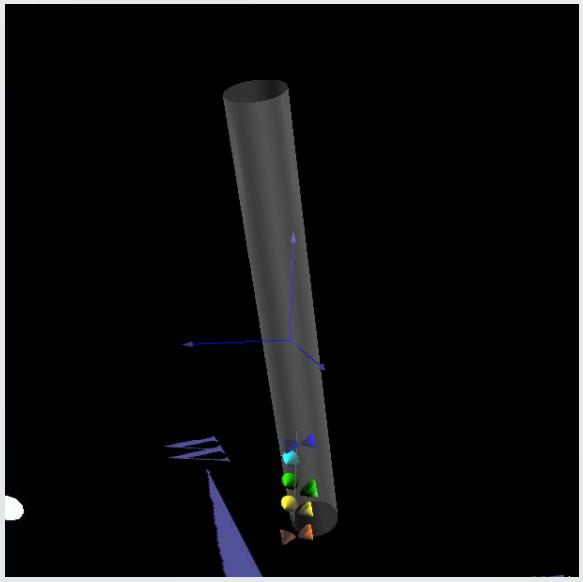
NEVD

A multifunctional 3D event display for Antares

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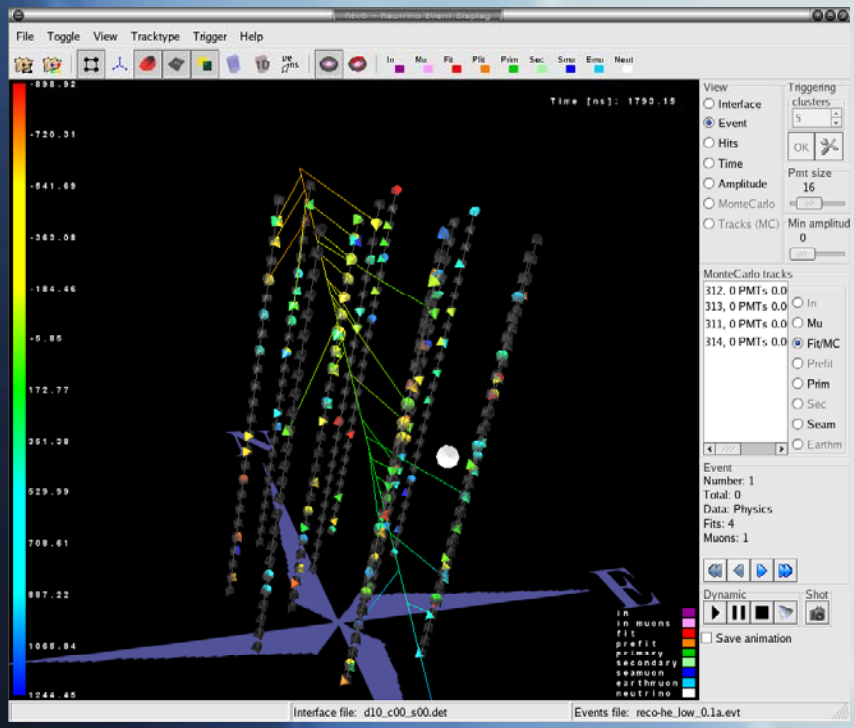
About NEVD

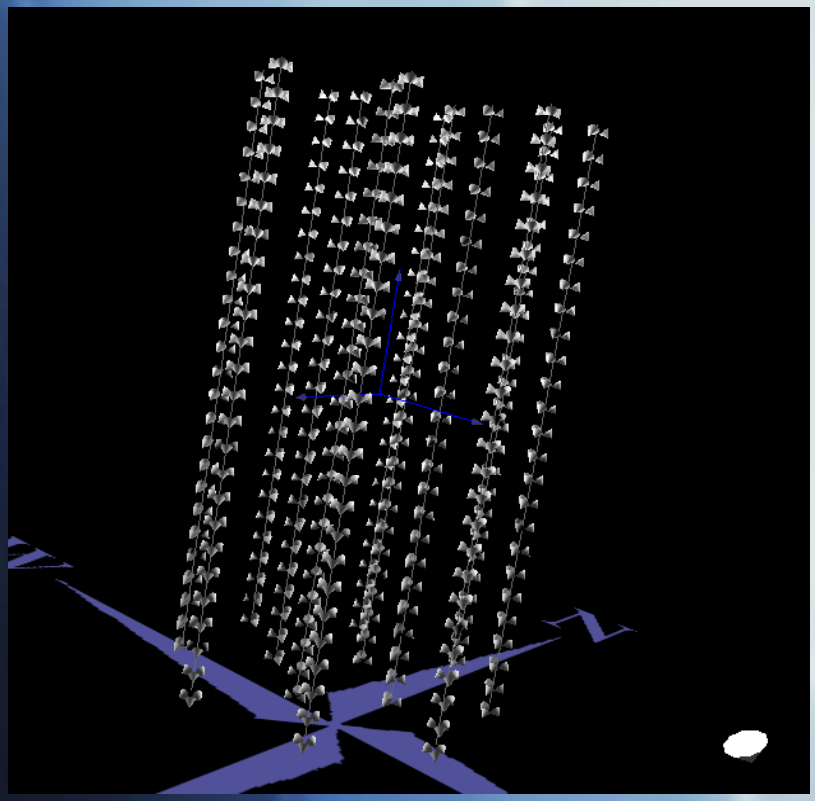


- A 3D event display for Antares
- Loading of several kinds of data
- Entirely written in C++
- 3D rendering with standard OpenGL libraries
- GUI with wxWindows: a common, opensource and multiplatform library
- Works together with the Antares DAQ
- Portable to all the main systems

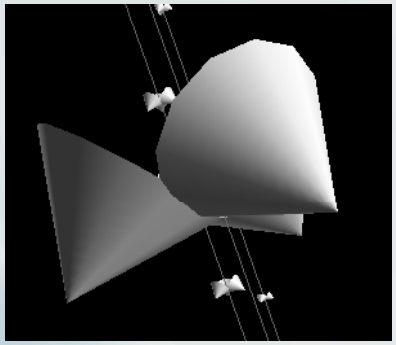
Main features

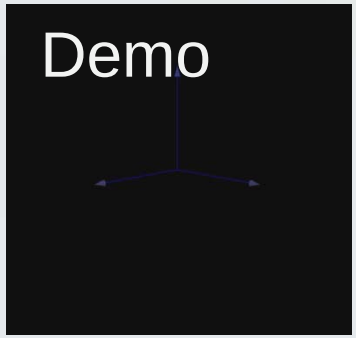
- Loading of ANTARES interfaces from file or database
- Loading of ANTARES Physics events and/or MonteCarlo events in both ASCII and ROOT format
- Loading of ANTARES (triggered) timeslice files
  - Run-time 3D triggering on timeslices
  - Real-time 1D triggering on timeslices
- Multiple events management (real / MC view)
- Montecarlo or reconstructed tracks (Reco) visualization
- Real-time event animation for track fits

Interface loading (ASCII/DB)



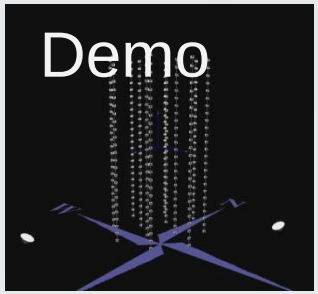
- Each PMT is displayed with a cone glyph indicating position and direction
- A reference plane is visualized
- Browsing of the 3D space with rotation, translation, zoom and trackball mode (online help)





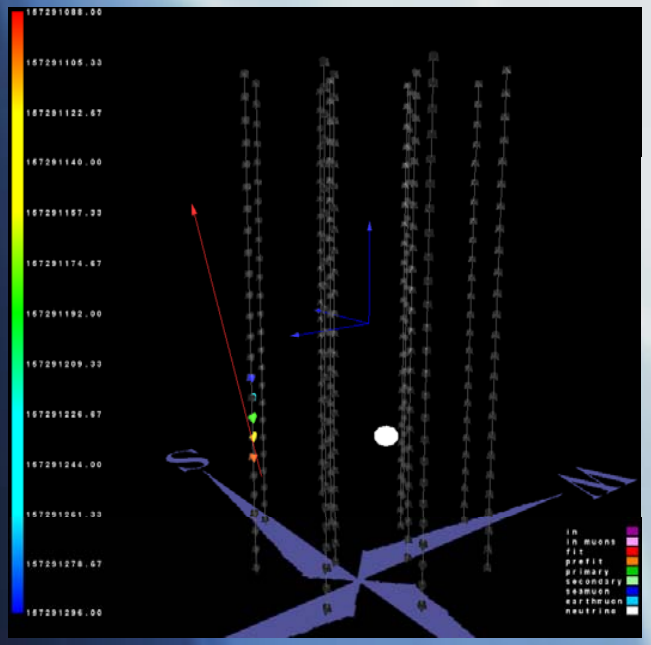
Physics events and Montecarlo events loading

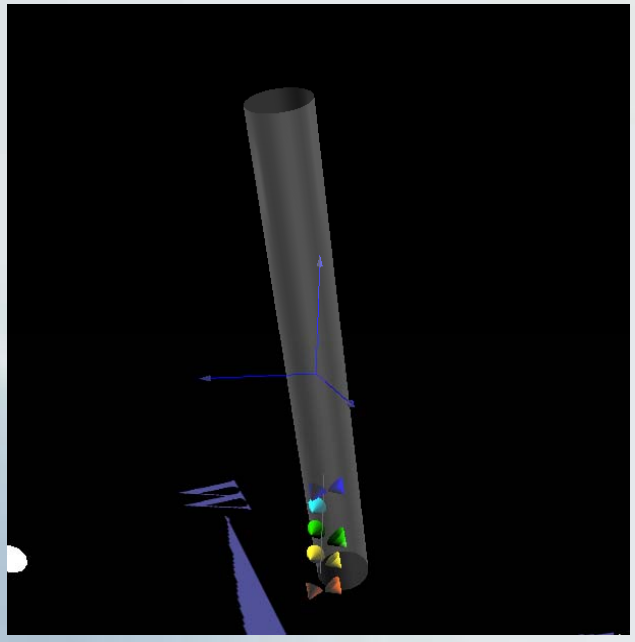
- Physics events and/or Montecarlo events are loaded if present
- Hit time is proportional to PMT colour
- Hit amplitude is proportional to PMT size
- Two sets of distinct visualizations / overlapping
- Quick event browsing
- If reconstructed tracks or Montecarlo tracks are present, an animation is available
- Screenshots and movies can be saved at any point

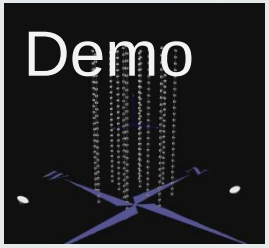


Timeslices loading

- Loading and triggering of timeslice files:
  - **3D triggering (ones available from the DAQ)**
  - **1D (Maarten) probe-like triggering**
- Corrispondence with eventual MonteCarlo events is visualized







Minor features

- Amplitude treshold selection
- Time range selection
- Display settings for slow machines
- Inspection of PMTs by mouse pointing
- …many others

Get and compile NEVD

- Login to the NIKHEF cvs repository:
  - *$ cvs -d :pserver:anonymous@login.nikhef.nl:/project/antares/antcvs login*
- Checkout the sources:
  - *$ cvs checkout antares-evd*
- Run the configuration script:
  - *$ ./configure ANTARES_DAQ=your_antares_daq_path*
- Compile:
  - *$ make*
- Run NEVD:
  - *$ ./nevd*

Start / Troubleshooting

- Compilation troubleshooting:
  - Read the README file
  - Check compilation options: *$ ./configure --help*
  - Contact me: *sottoriv@nikhef.nl*
- Start to use NEVD:
  - Online help (help menu)
  - *NEVD user manual* (ANTARES-Soft / 2007-003 or NEVD-manual.pdf)
- Bugs report:
  - Debugging output: *$ ./nevd -d*
  - Contact me: *sottoriv@nikhef.nl*

Conclusions

- NEVD is ready to be used and tested
- It is easy to install and compile (needs nothing more than the DAQ)
- I'm available via mail in case of problems, mail me!
- NEVD needs **users** to be improved and eventually fixed
- So…

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