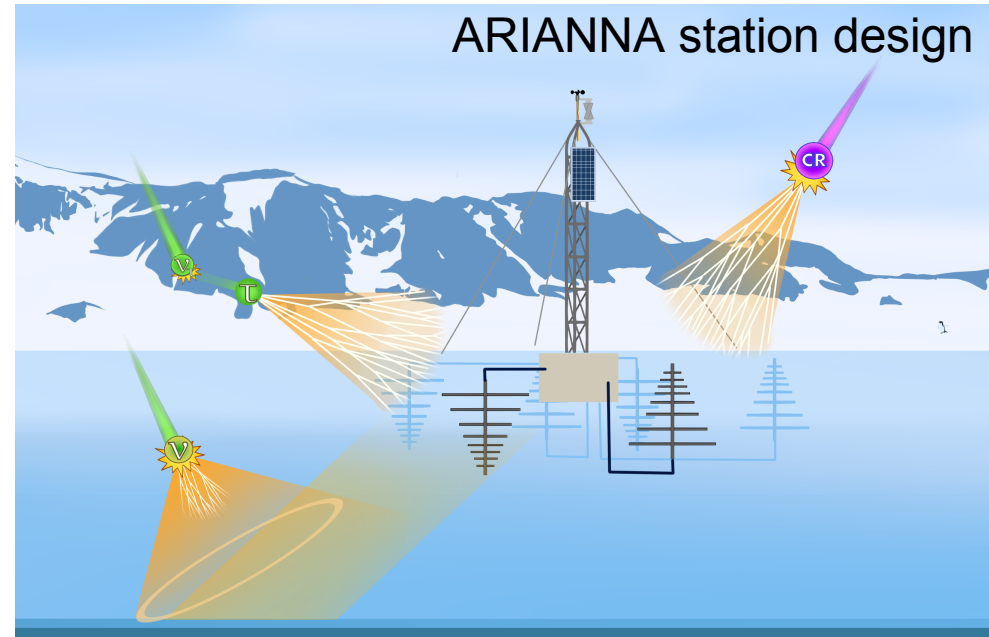
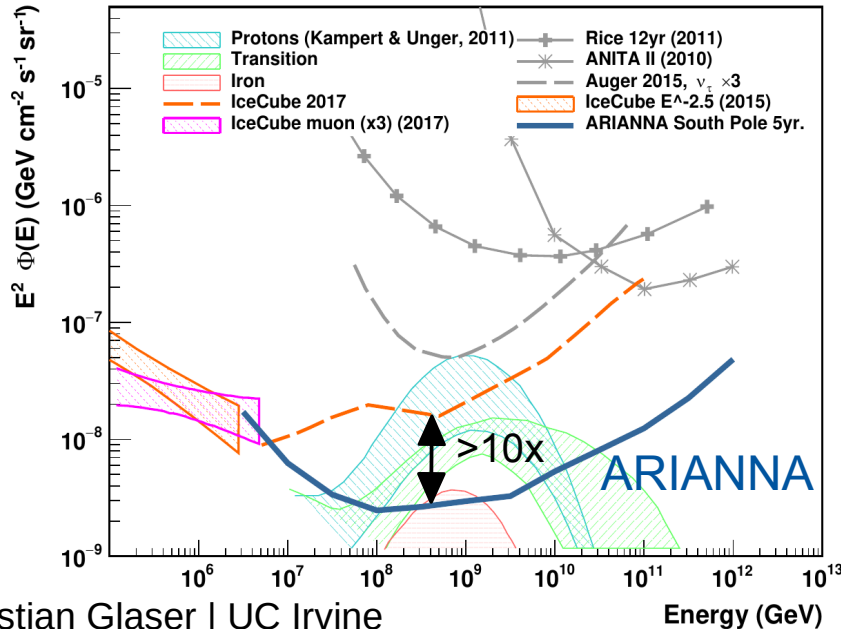


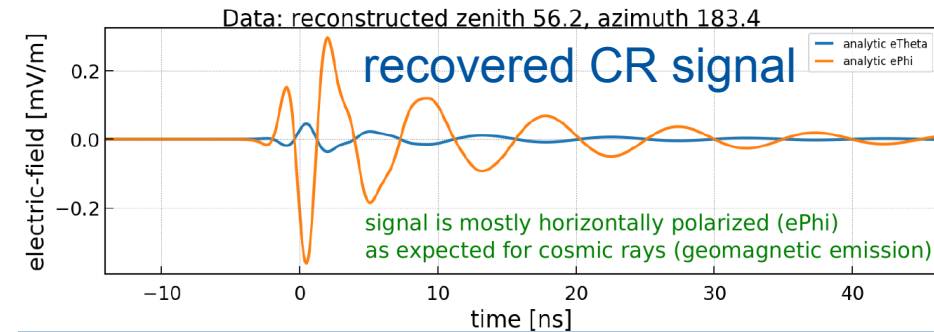
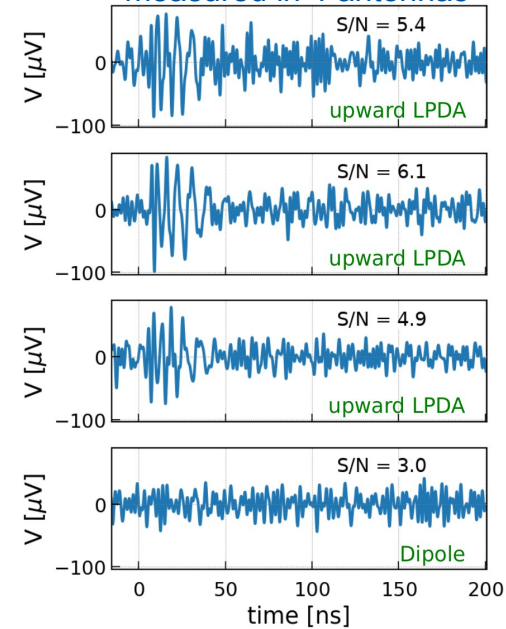
Hunting for cosmogenic neutrinos with the ARIANNA experiment



- Science Goal: **Discovery of cosmogenic neutrinos**
- Low event rate require instrumentation of huge volumes
 - detection of **radio emission of ν induced in-ice showers**
- Pilot stations located on the Ross ice shelf and at the South Pole
 - operating successfully for 4 years in harsh Antarctic conditions



cosmic ray pulse measured in 4 antennas



cosmic-ray test beam

- Cosmic-ray radio pulses are perfect calibration source
 - CR pulse very similar to neutrino signal
- Proof of detector capabilities under realistic conditions
 - ARIANNA station capable to reconstruct polarization

transient source sensitivity

- ARIANNA's large effective volume results in high sensitivity to transient events
- E.g. coincident detection of neutrinos and gravitational waves from neutron star mergers

transient sensitivity

