

Deep pulser

For Bob Morse

SPIceCore

- 700m deep drilled 2014-15
- 1500m deep this coming season
- hole is liquid filled (smells like bananas...)
- about 4" - 10cm in diameter
- intended as a long-term resource for glaciology, etc.
- hole location was at least in part dictated by ARA location

What we'd like to do

- build a deployable (and de-deployable) pulser rig for this hole
- a pulser that could be seen out at any and all ARA-37 stations
- make a single plan to nail down the $n(z)$, birefringence, dispersion, attenuation length, all in one measurement setup (or two or whatever) that we can use in this hole

Hooks to a broader community

- proposal from Ryan Bay, Dima, and Buford to dust log this hole
- possible oil field RF measuring setup too, playing phone tag with these folks
- radioglaciology is the obvious connection

This activity as a proposal

- if we decide to send something in to the NSF...
- hardware: radio pulser, antennas, & engineering
- fieldwork: winch, IDDO? operations person
- analysis: keep as a small part of the effort
- perhaps something like \$100k, half h/w, half field