Permafrost Dynamics Observatory (PDO)

Kevin Schaefer (NSIDC)
Howard Zebker (Stanford)
Andy Parsekian (U. of Wyoming)
Mahta Moghaddam (USC)
Jeff Thompson (NSIDC)
Objective 1

- Combine InSAR and backscatter to measure soil moisture and ALT

ReSALT: ALT from InSAR + AirMOSS: Soil Moisture
Objective 2

- Validate ALT and soil moisture using Ground Penetrating Radar (GPR) and Probing
  - Road-intercept Strategy
  - 4 sites in Alaska, 4 in Canada

GPR Equipment

- Antenna
- Controller
- Computer

GPR Survey (YK Delta)

- ‘Horse’
- ‘Driver’
- ‘Mule’
Ground Penetrating Radar (GPR)

- 2-3 km GPR per site; 10% probe soil moisture
Requirements

• Airborne
  • North-South and East-West transects
  • Fly over Fire zones
  • Fly over sites with validation data

• GPR Validation
  • Share data
  • Share transportation

• Data
  • UAVSAR, AirMOSS, LVIS
  • ALOS, RadarSat, Sentinel