Seafloor Sounding in Polar and Remote Regions (SSPARR)

• **Buoy Control/Telemetry Module**
  – Iridium Short Burst Data modem
  – Data Acquisition/Archiving & Control Sys.
  – May be floating or through-ice

• **Electromechanical Tether**
  – Oil-filled hydraulic hose protects from ice damage
  – Integral electrical conductors

• **Depth Sounder Module**
  – Nominal 20m depth to reduce ice damage, surface bubbles, cavitation
  – Internal power supply for 5 year lifetime
  – Energy output dependent on expected seafloor depth
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- Fulfills need for seafloor depth measurements in areas not visited by ships, such as:
  - Arctic Ocean
  - Southern Ocean
  - Southern Pacific and Indian Oceans

- NSF-sponsored, three-year engineering development leading to production capability

- SSPARR buoy is an expendable device, deployable in open ocean or ice with expected 5 year lifespan

- Original SSPARR buoy concept was a depth sounder but now addressing use as an aid to navigation for under-ice vehicles
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Preliminary Results