



Ice Cover Monitoring with Distributed Acoustic Sensing (DAS)

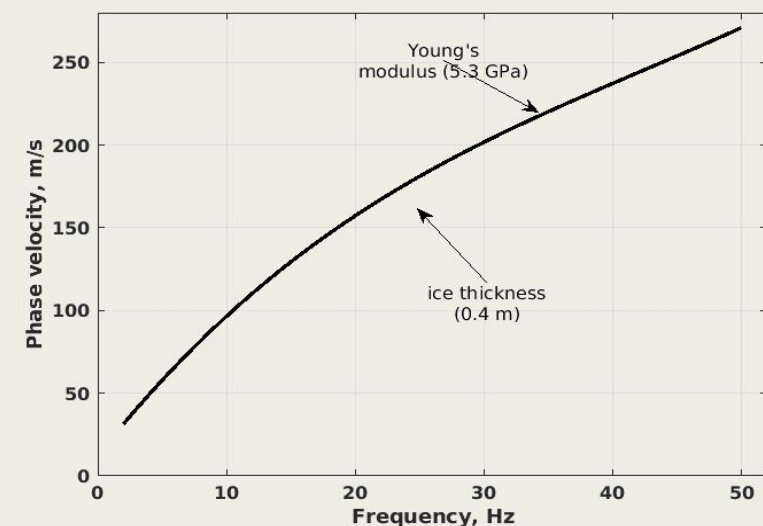
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LLC "T8 Sensor"

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We turned optical fibers into seismic arrays for monitoring ice cover.:

- **New contribution:** Innovative **fiber-ring geometry** + DAS system
 - dispersion curve analysis results comparable to geophones.
- First field test in Klyazma Reservoir (Moscow, Feb 2024):
 - Detected **flexural waves** with DAS.
 - Derived ice thickness (0.4 m) & Young's modulus (5.3 GPa).
- **Takeaway:** DAS is a **viable, expendable, scalable tool** for long-term ice monitoring, **complement to conventional techniques**.

👉 *Let's discuss how DAS can transform cryospheric monitoring and infrastructure safety!*



Disclaimer: This poster presents experimental research results from a limited field campaign. The findings are intended for scientific discussion and should not be directly applied for operational ice monitoring or safety-critical decisions. Performance depends on fiber layout, coupling conditions, and environmental factors.

