

# In-situ calibration device for the measurement of the snow accumulation and the index-of-refraction profile [Time: 10+3]

*Thursday, 8 April 2021 10:22 (13 minutes)*

High-precision neutrino energy reconstruction requires a real time monitoring of the firm properties (snow accumulation  $h$  and the index-of-refraction profile  $n(z)$ ). In this talk, I will present a design for an in-situ calibration device applicable to an IceCube-Gen2 radio array, consisting of two shallow emitter antennas and a receiver at 15m depth. The optimal configuration of the emitters, that yields the best reconstruction in  $h$  and a two-parameter  $n(z)$  model, is determined. A simplified version of this technique has already been tested in-situ at one ARIANNA station at the Ross Ice Shelf to continuously measure the snow accumulation.

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