

Sound Detection and Ranging (SODAR)



Website: www.src.sk.ca

For more information about how SRC can apply SODAR technology to your wind energy program, contact:

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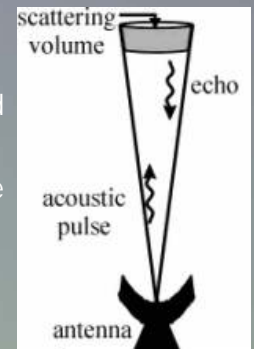


Wind Energy Site Decision-Making Tool

The Saskatchewan Research Council is using Sound Detection And Ranging (SODAR) technology to assist clients with their wind energy programs. SODAR is an acoustic system that can remotely measure wind speed and turbulence in the atmosphere. This technology is becoming more and more useful in helping clients assess wind energy potential and can be used to determine suitable sites for wind turbine placements within wind farms.

SODAR Technology

An antenna emits short sound pulses which are backscattered by temperature inhomogeneities in the air. The antenna then receives the echoed sound pulses and the amplitude and frequency of the backscattered wave are evaluated.



The height resolution, up to 300 metres, is gathered by considering the time required for the pulse to transmit from the antenna to the measured layer and back. Additional detailed information about the turbulence structure can be collected from the amplitude of the backscattered wave. Wind speed is determined by evaluating the frequency spectrum that occurs from the movement of the scattering temperature inhomogeneities.