

Obviously the frequencies required for penetration through several km of slightly salty ice will be on the order of 1 Hz or less.

We end by discussing how we might send out a pulse of these low frequency radio waves through the ice and obtaining echoes back that could give us an indication of the depth of the ice. The important thing here is for the student to realize that there is dispersion, with the higher frequency components of the pulse travelling faster than the lower frequency components, and also frequency-dependent absorption with the higher frequency components suffering greater absorption. These two effects change the shape of the radiated pulse and degrade the accuracy of the measurement of ice thickness.

Is this a general property of conductor?