SNOW MOISTURE METERS

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The complex dielectric constant of a material is given by the two components ε' and ε'', whereas ε' means the relative permittivity and ε'' the dielectric loss. Dielectric measuring methods of the liquid water content make use of the substantial difference between the permittivities of dry snow and water. In the frequency range between 10 MHz and 100 MHz, which is of particular interest in connection with measuring the water content, twin-Tbridges are preferable for measurements of the permittivity. Two types of snow moisture meters, working at set frequencies in the range of 20-30 MHz, have been developed: one using a plate condensor with a measuring volume of 1000 cm^3 and one using acornb-shaped, flat condensor to measure the increased liquid water content in thin layers near the snow surface.