On Windscreen Insertion Loss in Still Air

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Microphone windscreens are used to attenuate wind noise. But even n still air, they add impedance between the source and microphone, not accounted for when the system is checked by use of an acoustical calibrator or when used in the field. The procedure for the characterization of the attenuation in still air has recently been addressed in ANSI S1.17-2000 part 1. But to date, no commercial windscreens have been tested in accordance with that standard. Partially, the reason is the precision of the procedure has not been determined. The results of a round robin and the results of the uncertainty determination are available.

In the meantime, we have tested some of the samples used and others in a small chamber approaching free field conditions. We present the results of both, the tests of insertion loss from our nonstandard method and those based on S1.17. We show that, in some cases, the use of a windscreen can easily change a measurement using type 1 instruments to type 2 or worse. Without knowing information about a particular windscreen, the use of a windscreen in still air, can drastically change uncertainty of measurement. In moving air conditions we expect even more severe problems.