

The usual method of weatherproofing a slotted-cylinder antenna is to surround it with a larger plastic pipe. OH2AUE³⁵ found that one type of plastic not only degraded the VSWR but also changed the resonant frequency, showing that the antenna was being detuned. You should check for a change in VSWR with any plastic housing.

7.6 Summary

Linear arrays of waveguide slots can make high-performance omnidirectional microwave antennas, and the slotted-cylinder antenna can provide similar results at lower frequencies. These antennas feature good omnidirectional gain with horizontal polarization. Computer routines simplify the design calculations for predictable performance. Finally, the simple improvements described can provide enhanced performance.

Slotted-cylinder antennas provide good omnidirectional performance with horizontal polarization at the UHF and lower microwave frequencies where the size of a waveguide becomes unwieldy. The Alford slot is an enhanced form of the slotted-cylinder antenna with somewhat higher gain, but dimensions are more critical.

Two-dimensional slot arrays may be used as high-gain directional antennas, but the difficulty of fabrication makes a horn or parabolic dish antenna a more attractive alternative.

7 References

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* I have not seen these original papers; they are listed since much of the subsequent work is derived from them.