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In this paper[1], an empirical investigation of propagation path loss variations with frequency in sandy and silty clay loam soils has been done using planar and dipole antennas. The path loss experiments are conducted using vector network analyzer (VNA) in sandy soil testbed, and greenhouse outdoor silty clay loam testbed for different operation frequencies and communication distances. The results show that the planar antenna can be used for subsurface communications in a wide range of operation frequencies. The comparison paves the way for development of sensor-guided irrigation system in the field of digital agriculture [1-21].

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