

LIST OF FIGURES

1.1	GPR signal model for measuring the water content	2
2.1	GPR block diagram	8
2.2	GPR signal model for measuring the water content	8
2.3	Vector Network Analyzer(VNA), as the network analyzer	13
3.1	Proposed Post-Processing method algorithm to find the soil water content information, (a) is GPR scheme, (b) is GPR experiment to find the soil water content, (c) is the post-processing using MATLAB	16
3.2	Laboratory Experimental Setup	18
3.3	Steps of the Experiment for finding the soil water content	19
3.4	Transmitted Signal measurement set-up. (a)measurement set-up diagram. (b)antennas set-up	20
3.5	Coupling Signal measurement set-up. (a)measurement set-up diagram (b)antennas set-up	20
3.6	GPR experiment in estimating soil water content	21
4.0	Transmitted signal with R 15 cm	24
4.0	Transmitted signal with R 30 cm	24
4.0	Transmitted signal with R 40 cm	25
4.1	Coupling Signal	26
4.1	Received signal with R 15 cm	27
4.1	Received signal with R 20 cm	28
4.1	Received signal with R 25 cm	29
4.1	Received signal with R 30 cm	30