THESIS TITLE CENTERED ON THE PAGE VERTICALLY AND HORIZONTALLY, IN ALL UPPER CASE LETTERS AND IN AN INVERTED PYRAMID SHAPE $\frac{2^{15}}{\pi}$

 $\label{eq:by-def} \mbox{Author's Name}$

Copyright by Author's Name 2020 All Rights Reserved alibrating the response of a GPR system is essential for making measurements of subsurface materials properties. Duke (1990) calibrated the overall response of a GPR system by making measurements of the . . . 1.1 Background and Previous Work This chapter describes the methodology that has been used to determine the response of an impulse GPR. The characterization includes a response function for the receiving electronics, simulations . . . 1.2 Signal Processing Tools There are many techniques for making high frequency electrical measurements in electrical networks and antenna systems, and there are also many methods for manipulating the data from these measurements . . . 1.2.1 Convolution and Deconvolution Methods Convolution is a mathematical operation that can be used to describe how a linear network element modifies a signal as the signal passes through it . . . 1.2.2 Scattering Parameters

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