# Abstract

This master's thesis aims to characterise the material behaviour of piezoelectric ceramics under hydrostatic load. An experimental setup is built to introduce a load upon a sample of the piezoelectric ceramic and observe the change in it's behaviour through material parameters obtained from impedance measurements. The load in question is applied inside a sealed chamber through the insertion of pressurised argon gas. A reference based measurement setup is used alongside a network analyzer and a custom-built interface to record the change in impedance. A modified simplified extraction process from the Measurement Engineering Group of the Paderborn University is used to obtain the parameters from the recorded impedance. It is found that the material parameters, and hence the ways the piezoceramic behaves, change with increasingly applied load. Additionally the results of this experiment are compared to the results from other experiments that also aim to characterise behaviour of piezoceramics under external influences.