

GHz-DAC音速法：KCl試料による予察的測定

GHz ultrasonic measurement in DAC: preliminary measurement on KCl

*米田 明¹、鎌田 誠司²

*Akira Yoneda¹, Seiji Kamada²

1. 岡山大学地球物質科学研究センター、2. 東北大学理学研究科

1. Institute for Study of the Earth's Interior, Okayama University, 2. Frontier Research Institute for Interdisciplinary Sciences, Tohoku University

We have been developing an experimental technique of GHz ultrasonic measurements in diamond anvil cell (DAC). It is advantageous to measure elasticities of opaque materials and P wave velocities of silicate minerals under very high pressure (~100 GPa), comparing with Brillouin scattering in DAC.

Recently, we found a conventional way to transmit GHz acoustic wave into diamond anvil from GHz buffer rod. It was to place metallic thin foils (aluminum, copper, brass, etc.) between the buffer rod and the diamond anvil. Through the technique, we succeeded to get signal from KCl sample embedded in stainless steel (SUS) gasket.

The preliminary analysis shows two signals at around 10 ns and 20 ns. Here are two interpretations; (1) those correspond to SUS and KCl, or, (2) single and double reflection in sample or gasket. We hope that the succeeding analysis will soon reveal the question.

キーワード：DAC、GHz、ultrasonic

Keywords: elasticity, high pressure, KCl