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# 化学的地震先行現象の検出を目的とした質量観測計の開発

# Development of a new groundwater and gas monitoring system to detect early signals due to faulting

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Because a fault is a fluid path-way, attempts of monitoring generated gases due to faulting have been performed by e.g. Sugisaki (1978). 30 years after the study performed, we developed a Quadrupole Mass Spectrometer into a GRowndWater Data Analyzing System (GROWDAS) in order to measure gasses under ground continuously. Advantages of the system are following, 1) Gases can be measured anywhere the system can stand in an area of 1 m x 1 m because the size of the system was reduced, 2) The operation is unattended during observations by a working of an automatic gas collecting and dehydrating unit. We introduce a new groundwater and gas monitoring system (Groundwater data analyzing system; GROWDAS) under development.

Keywords: fault, fluid path, methane, earthquake