

## An evaluation of the transmitting system for the electromagnetic exploration using control source

# Takahiro Nakajima[1], Mineo Kumazawa[2], Yukiko Yokoyama[3]

[1] Tono Geoscience Center, JNC, [2] Tono, JNC, [3] TGC

We have developed a new electromagnetic sounding method called EM-ACROSS. In this study we evaluate the transmitting method to observe more accurate and larger signals. For the more accurate signal, we design the monitoring the source signal and feedback it to the transmitter. This system can produce more accurate and stable signals regardless the temporal change of the environment around the source. For the larger signal, we compare two transmitting methods, the current dipole and loop current. For example in the far field and high frequency region, transmission by loop current is better than that by current dipole, while in the near field region and in the case of electric fields measurement, transmission by current dipole is the better. After this investigation, we can adopt the better transmitting method suitable for the object of exploration.