MT

[1];   [2];   [3];   [4];   [5];   [6];   [7]
[1] JAMSTEC/IFREE; [2]   IFREE; [3]   ; [4] JAMSTEC   IFREE; [5]
; [6]   ; [7]

Marine and land magnetotelluric surveys in the eastern Japan sea area

Hiroshi Ichihara[1]; Noriko Tada[2]; Kiyoshi Baba[3]; Takafumi Kasaya[4]; Masahiro Ichiki[5]; Toshiki Kaida[6]; Yasuo Ogawa[7]
[1] JAMSTEC/IFREE; [2] IFREE, JAMSTEC; [3] ERI, Univ. of Tokyo; [4] IFREE, JAMSTEC; [5] RCPEV, Grad. School of Sci, Tohoku Univ.; [6] Grad. Sci., Tohoku Univ.; [7] VFRC, Titech

Northeastern Japan arc located on the western Pacific margin is known as a typical subduction zone associated with a cold and old oceanic slab. Recent EM and seismic surveys found low resistivity and seismic velocity zone beneath the NE japan, which implies dehydrated fluid from subducting Pacific Plate (e.g. Ichiki et al., 2013; Hasegawa et al., 2006). However, fluid distribution in the deeper extension of the subducting slab beneath Japan Sea is not obvious because only a few EM surveys had been conducted in the Japan sea area (e.g. Toh et al., 2006). In order to clarify the fluid distribution in the back-arc area of NE Japan subduction system, we settled 6 ocean bottom electromagnetometers in the eastern Japan sea area in April 2013 and will recover them in August 2013. In addition, 3 land MT stations were settled in islands in the Japan Sea between June and August 2013. In the presentation, outline of the surveys and preliminary results will be presented. We will also show the results of 3-D synthetic inversion in order to discuss the sensitivity of resistivity anomaly by these observations. For the synthetic inversion test, we used a newly developed 3-D MT inversion code for marine data (Tada et al., 2012) to treat complicated ocean bottom and land topography in the vicinity of eastern Japan Sea area. One of the test models supposing conductor associated with dehydrated water from slab beneath Japan sea was reasonably recovered from a homogeneous initial model.