# Resistivity structure of the Hidaka collision zone

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The MT soundings were carried out along a 220 km-long transect of 36 stations traversing the Hidaka collision zone from the eastern Tokachi district to central Iburi district, Hokkaido, Japan. The five components wide band MT system (Phoenix MTU5) was used in this survey. The MT time series were processing by robust stacking with remote site magnetic fields. The strike direction was estimated by the impedance decomposition scheme developed by Macneice and Jones(2001). The resitivity model along latitude 44:20N was derived using the 2D inversion scheme of Ogawa and Uchida(1996), based on TM mode apparent resistivity and phase.

The main findings inferred from the resistivity model are as follows;

(1)A high resistivity zone (GT 1000 ohm-m) is seen in the central part of Hidaka Mountains, between the Hidaka Western Thrust and the east of Hidaka Metamorphic Zone.

(2)A low resistivity layer (LT 100 ohm-m) lies at shallower part (LT 5km) of the Tokachi Plain and the layer dips eastward and reaches a depth of 20km at the east of the Toyokoro Hills.

(3)A low resistivity layer (LT 10 ohm-m) lies under the Ishikari Low Land at the shallower depth. The low resistivity layer is seen between the Shikotsu Lake and the Main Yubari Fault.

(4)A east dipping low resistivty layer (LT 100 ohm-m), seen from the Umaoi Fault situating at the east border of the Ishikari Low Land, is underthrusting below the Yezo Belt having several hundreds ohm-m.