

## High-resolution seismic reflection profiling in the eastern margin of Takada plain, central Japan

KATO, Naoko<sup>1\*</sup>, SATO, Hiroshi<sup>1</sup>, ISHIYAMA, Tatsuya<sup>1</sup>, KURASHIMO, Eiji<sup>1</sup>, KOSHIYA, Shin<sup>2</sup>, TODA, Shigeru<sup>3</sup>, TOYOSHIMA, Tsuyoshi<sup>4</sup>, SAITO, Hideo<sup>5</sup>, SHIRAISHI, Kazuya<sup>5</sup>, ABE, Susumu<sup>5</sup>, KITAMURA, Shigehiro<sup>6</sup>, NAKAYAMA, Yoshitaka<sup>6</sup>, Kakeru Wakita<sup>3</sup>, Kouya Shinada<sup>4</sup>

<sup>1</sup>ERI, Univ. of Tokyo, <sup>2</sup>Civil and Envir. Eng., Iwate Univ., <sup>3</sup>Aichi University of Education, <sup>4</sup>Faculty of Science, Niigata Univ.,

<sup>5</sup>JGI, Inc., <sup>6</sup>Graduate School of Science, Univ. of Tokyo

Mapping of seismogenic source fault beneath a fold-and-thrust belt is significant for the estimation of seismic hazard. To reveal seismogenic source faults, deep seismic reflection profiling was undertaken along the Muikamachi-Naoetsu seismic line (Sato et al., 2012: JPGU). The deep seismic profiling aims crustal scale image and for the imaging of shallow fine-scale structure its resolution is not enough. To obtain complete image of the active-seismogenic source fault system, we carried out the high-resolution seismic reflection profiling in the eastern margin of the Takada basin for 7-km-long seismic line. Seismic data were acquired using two vibrator trucks (IVI, EnviroVib). The sweep signals (8-80Hz; reflection profiling) were recorded with 4.5 & 10 Hz geophones deployed at 12.5 m intervals, off-line recorder (ERI LS8200SD, JGI MS2000). The seismic data were processed using conventional CMP-reflection methods. The obtained seismic section portrays the seismic image and velocity structure down to 2 km. The seismic section demonstrates an asymmetric fold with steeper eastern limb and gentle western limb. The thrust forms a small-scale wedge-thrust. As the main anticline was formed by the deep-sited thrust, this shallow thrust played a secondary role for this anticline.