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Seismic Velocities Imaging around "AFA" Hydrothermal Area in West Java, Indonesia derived from Dense Seimometer Network

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We have deployed about 48 three component seismometers around "AFA" hydrothermal are in West Java, Indonesia from October 2012 up to October 2014 in order to detect microseismic event and to enhance our knowledge about subsurface seismic stucture. The seismometer network in this study, is the first dense seismometer array monitoring around hydrothermal area in Indonesia so far. We analyzed a huge waveform data set to distinguish microseismic, local and regional events. Then, we picked the onset of P-and S-wave arrival of microseismic events carefully visually by eye. We determined the initial microseismic event by applying Geiger's method with uniform seismic velocity model. Totally, we have been successfully determined 2,497 microseismic events around this hydrothermal area. We also improved 1D seismic velocities (Vp, Vs) and simultaneously with hypocenter adjustment as input for the tomography inversion in this study. Overall, the microseismic events are concentrated around production area activities and we also found strong cluster microseismic event in Southern part of this region which still need to be investigated in more details. Now, we are going on tomographic inversion step by using double-difference method. We are going to show more information during the meeting.