[EE] Evening Poster | S (Solid Earth Sciences) | S-IT Science of the Earth's Interior & Tectonophysics

## [S-IT23]New perspectives on the geodynamics of East Asia

convener:Timothy B Byrne (University of Connecticut), Asuka Yamaguchi(Atomosphere and Ocean Research Institute, The University of Tokyo), Jonny Wu(共同), Kyoko Okino(Atmosphere and Ocean Research Institute, The University of Tokyo)

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The Pacific, Indo-Australia and Eurasian plates converge around the Philippine Sea plates in south and East Asia, resulting in one of the most tectonically active regions on earth. The area is also geologically and tectonically complex with numerous active tectonic environments, ranging from subduction to collision, and a long history of plate boundary interactions. The last decade has yielded a wide range of new observations, including detailed geologic data and high resolution crustal to mantle imaging. Here we seek oral and poster presentations that bear on the geologic history and geophysical character of modern and ancient plates in East Asia and their interactions since the Mesozoic. We also invite geodynamic models that integrate these diverse datasets into a more holistic view of this dynamic environment.

## [SIT23-P02]P and S wave attenuation tomography of the Japan subduction zone

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Keywords:Japan Islands, subduction zone, seismic attenuation, tomography, arc magma

The first high-resolution P and S wave attenuation (*Q*) tomography beneath the entire Japan Islands is determined using a large number of high-quality data collected from P and S wave velocity spectra of 4222 local shallow and intermediate-depth earthquakes. The suboceanic earthquakes used in this study are relocated precisely using sP depth phases. Significant landward-dipping high-*Q* zones are revealed clearly, which reflect the subducting Pacific slab beneath Hokkaido and Tohoku, and the subducting Philippine Sea (PHS) slab beneath SW Japan. Prominent low-*Q* zones are visible in the crust and mantle wedge beneath the active arc volcanoes in Hokkaido, Tohoku and Kyushu, which reflect source zones of arc magmatism caused by fluids from the slab dehydration and corner flow in the mantle wedge. Our results also show that non-volcanic low-frequency earthquakes (LFEs) in SW Japan mainly occur in the transition zone between a narrow low-*Q* belt and its adjacent high-*Q* zones right above the flat segment of the PHS slab. This feature suggests that the non-volcanic LFEs are caused by not only fluid-affected slab interface but also specific conditions such as high pore pressure which is influenced by the overriding plate.

### References

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