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Spatial dependency of migration velocities of non-volcanic low frequency tremor active area at southwest Japan

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Non-volcanic low frequency tremors (NVTs) on a subduction zone in southwest Japan roughly migrate with about 10km/day along strike direction of Philippine Sea plate (e.g., Obara, 2010). Although the migration pattern can be categorized into several groups (Obara, 2010, Obara et. al., 2011), it is not always simple if we look at a small spatial scale.Previous studies suggest that these complexities are related to frictional properties on plate boundary (Ando et. al., 2012, Gosh et. al., 2012). In other words, there is a possibility that we can infer the frictional properties from the spatial distribution of NVT migration velocity.

Based on, In this study, we estimated along-strike migration velocities of NVT activities that occurred after July 2008 using LFT catalogue determined by the envelope correlation method and summarized their spatial dependency. The results suggest that the migration velocity is similar if we chose an arbitrary small segment and migration direction.

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