Ducellier and Creager 2020

Introduction:

NOTES: Intro: Add Chestler, more on thickness of LFEs versus tremor. Should they be the same? Why or why not? Implications are that both would represent regions of deformation during ETS, We know that LFE thickness is small. Is tremor the same and we are just seeing noise, or does tremor occur where LFEs are harder to detect because smaller or spread out over continuous space so not as clearly repeating, or more continuous in time be smaller in amplitude?

Ide, JGR 2012: paragraph 9, errors in tremor are 4.5 km (depth) and 1.5 km (epicenter) based on applying method to earthquakes in Shikoku.

Cassidy and Bostock, GRL, 1996: add to anisotropy discussion

Use 3-D velocity model to convert Ts-Tp into depths. Use Preston slab model.

Plot results for all Arrays (Fig 4), perhaps add to supplemental material

Develop threshholds (Distance, Number of Tremors, Sigma, Peak of envelope/rms) to get the best results, perhaps in a smaller area.

Internal consistency of errors among arrays for same tremor patches

Plot symbols relative to McCrory (or Preston)

How do you calculate thickness, select the best data

Consider the centroid time instead of peak time for most robust S-minus-P time?

BS East is often very small, idea on why? Or what this might mean?

Discuss the quality of each array. I would expect that PA and LC would not produce very good results.

How do you combine all the data to come up with your final depth of tremor, and width of tremor maps.

How much does the width of the stacked envelopes vary. The width of tremor varies from few km to 42km, more than a factor of 10. Is most of that related to the mapping of dz vs dt\_lag for near horizonal ray paths???

Add discussion of Cassidy and Bostock, GRL 1996 on anisotropy above the Juan de Fuca plate

Discussion needs to focus on estimates of tremor thickness and implications of a wide tremor zone. What is our best estimate of the width of tremor?

LaRocca et al, 2009: Out of 128 observations, the mean source distance above the plate interface is 3 km and the standard deviation is 5 km. Only use data with theoretical ray angles less than 15 deg for layered velocity model. This corresponds to epicentral distances of about 10-12 km.