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Data I

November 30, 2017

HW 8

1. For the fast orbit of roughly 1 day, the alias periods for the M2 and S1 tides are 12.4 days and 152.6 days respectively. For the slow orbit of roughly 21 days, the alias periods for the M2 and S1 tides are 65.6 days and 154.0 days respectively. The SWOT satellite should collect data for at least 308 days in order to get two realizations of the aliased frequency of the S1 tide. Of course, more data would be even better to get more realizations of the S1 tide.
2. The energy propagation from the Hovmoller diagrams appears to show mostly zonal changes in sea surface temperature that are not showing propagating signals. At the equator, potentially there was a propagating signal in 2015-2016 that moved east. I assume this was the El Nino. In general, because these are monthly sea surface temperature data, I believe it suppresses signals of east and west wave propagation. Also, I need to complete the frequency-wavenumber plots; I had a late start this week on the homework.