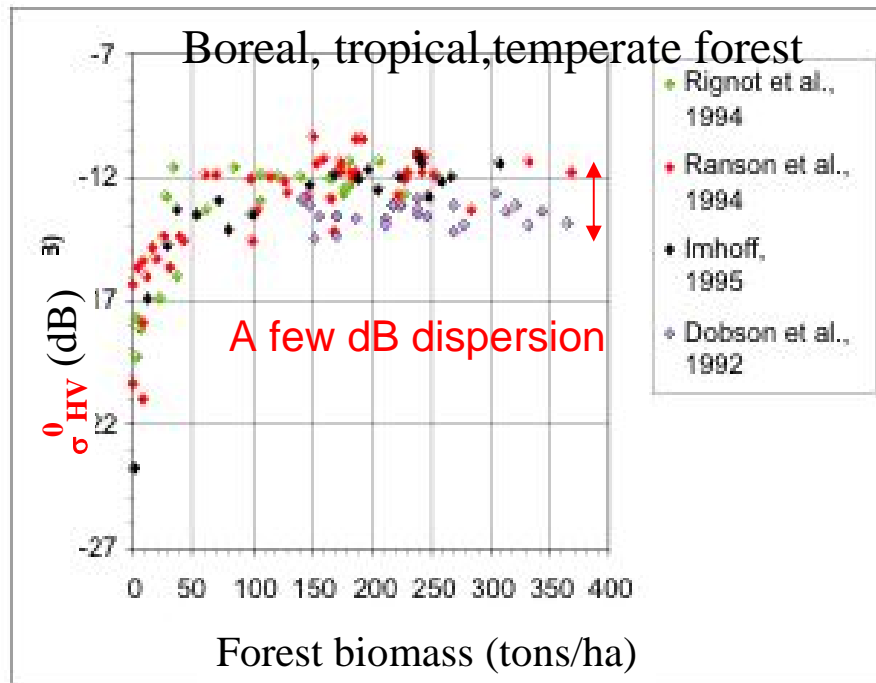


Daily change of L-band σ^0 for a tree

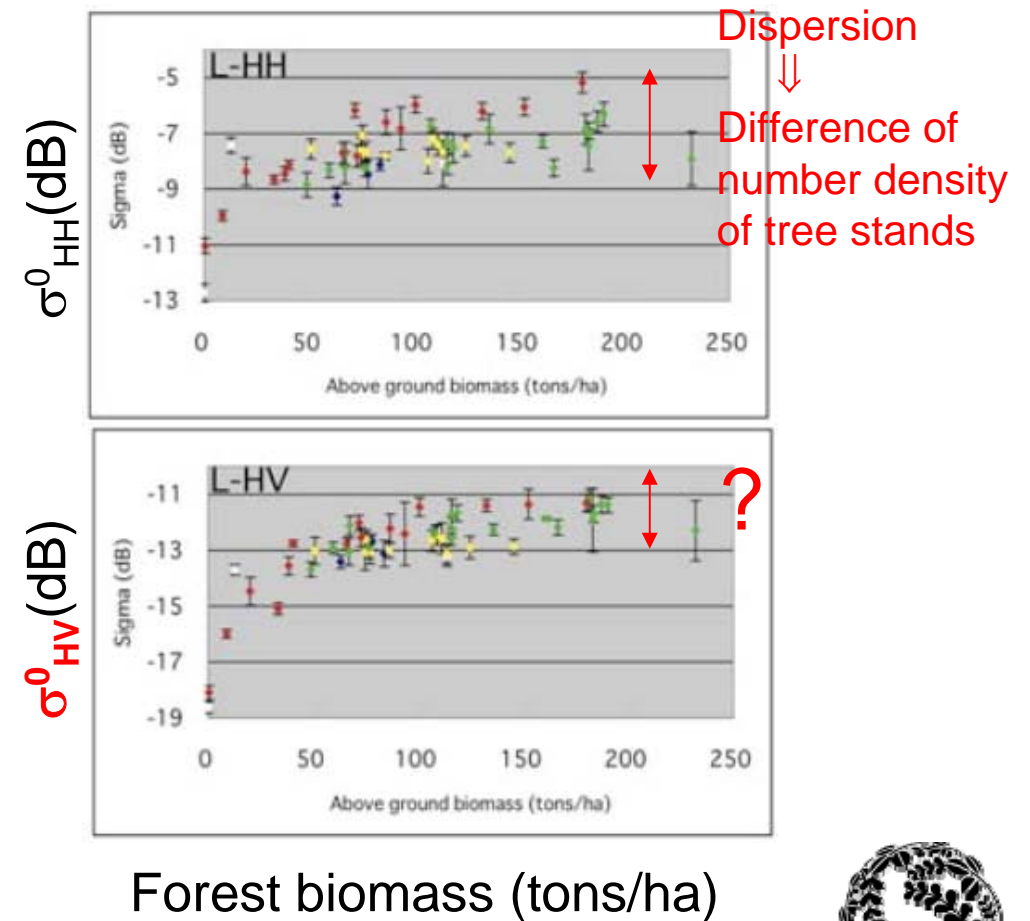
Manabu Watanabe
Tohoku University



Uncertainty of σ^0 -biomass relation



Le Toan T, et al, in press, 2005.

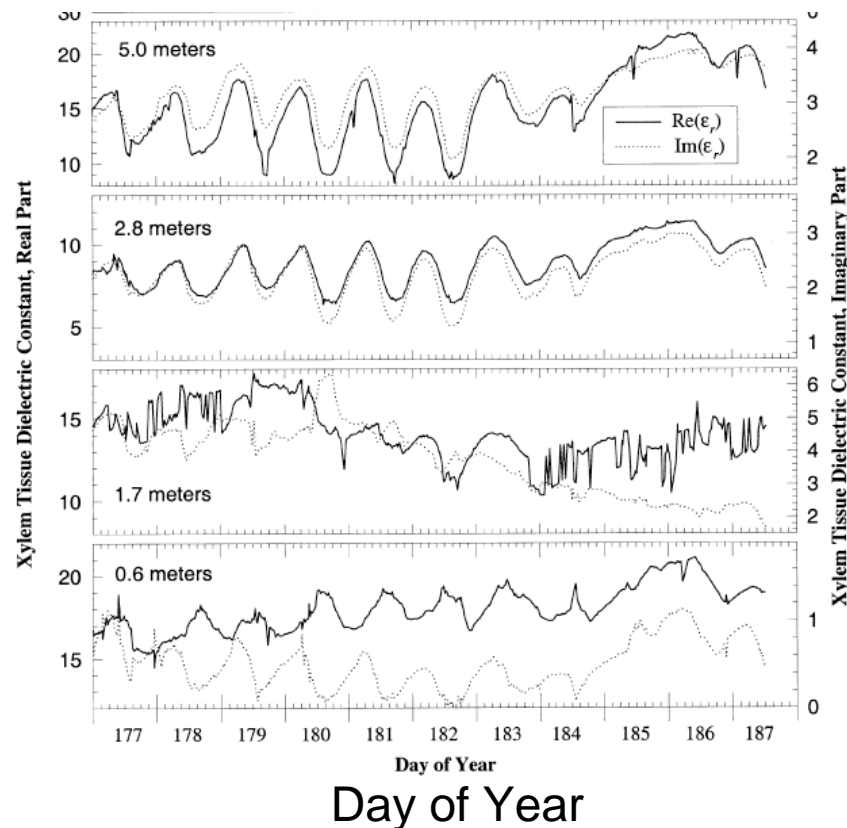


M. Watana, et al, IEEE Trans. Geosci, Remote Sensing, Vol. 44, No 11, 3154, 2006.



Daily change of a dielectric constant in a tree.

Dielectric constant



Peak of Dielectric constant value

- 12:00-18:00 (balsam poplar)
- 00:00-09:00 (black spruce)

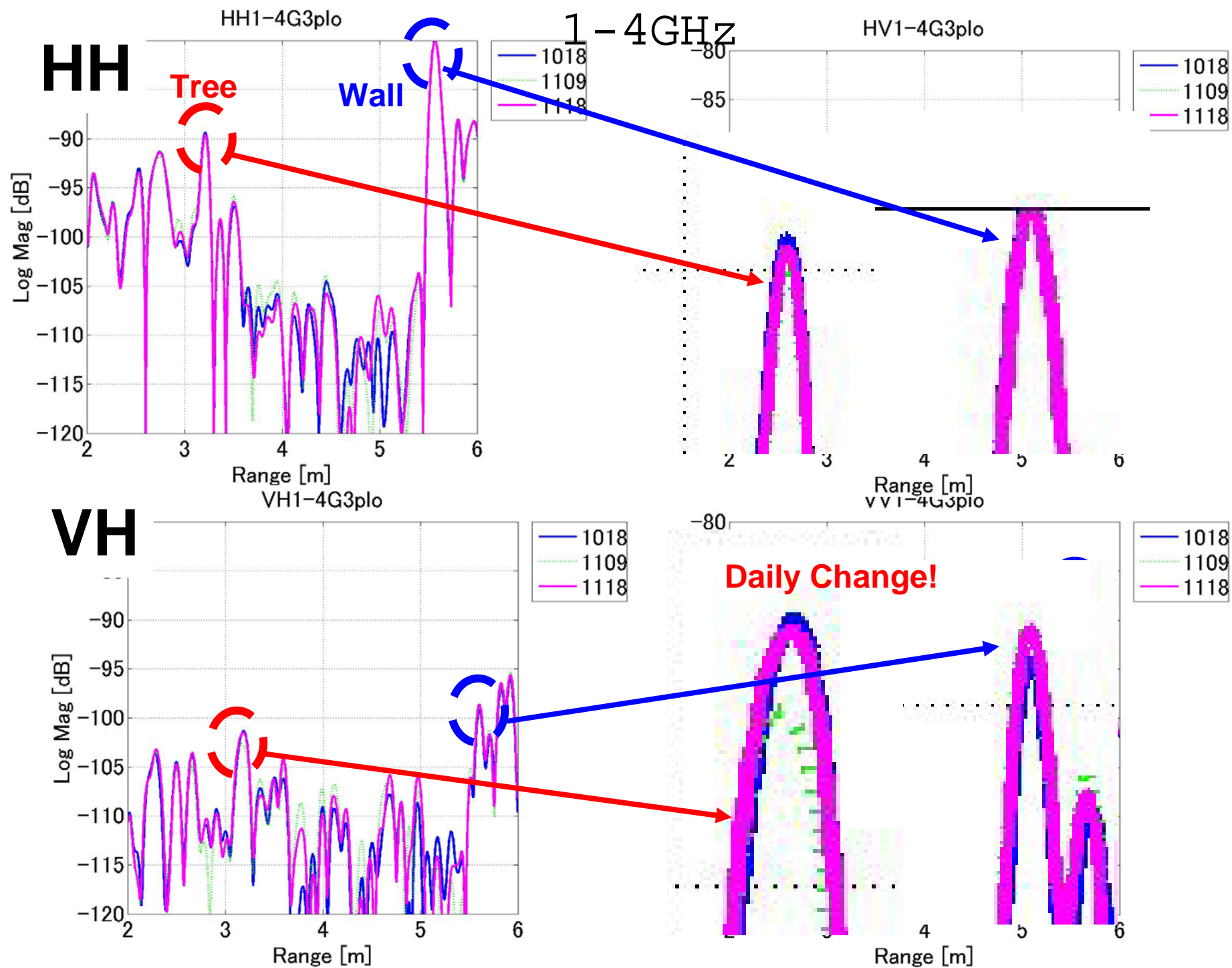


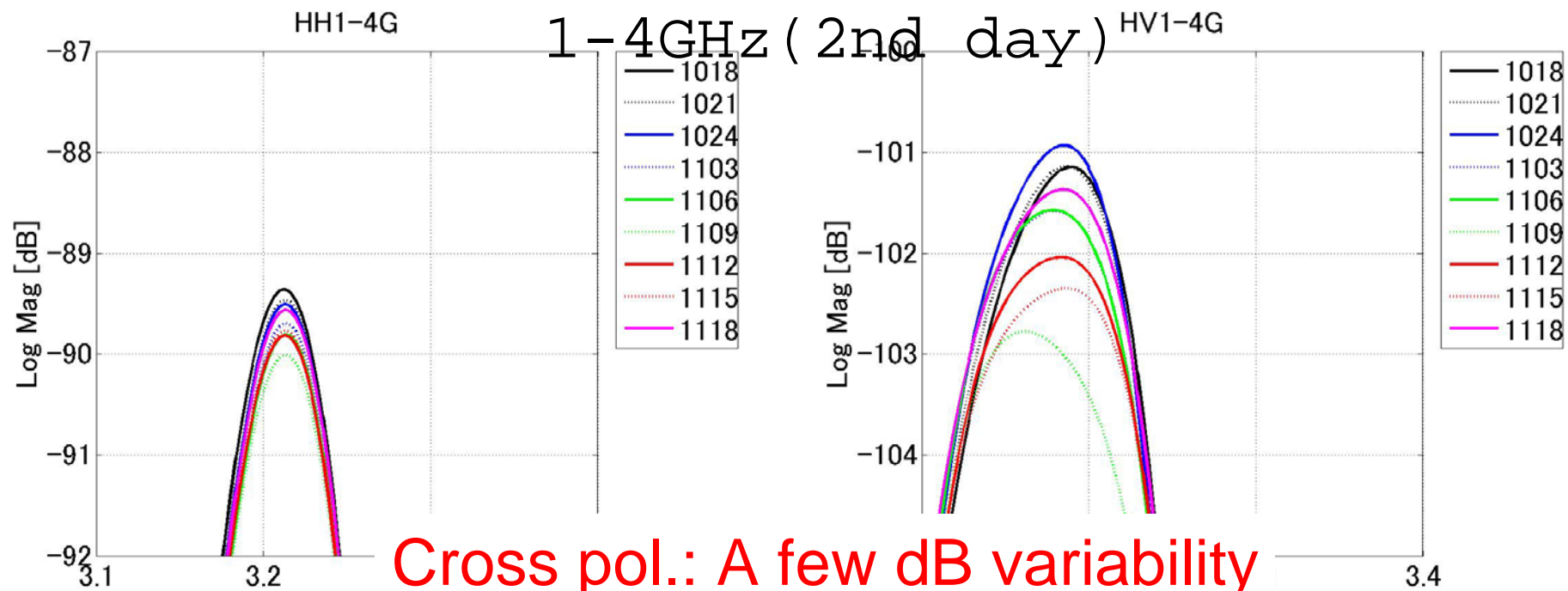
Measurement with scatterometer



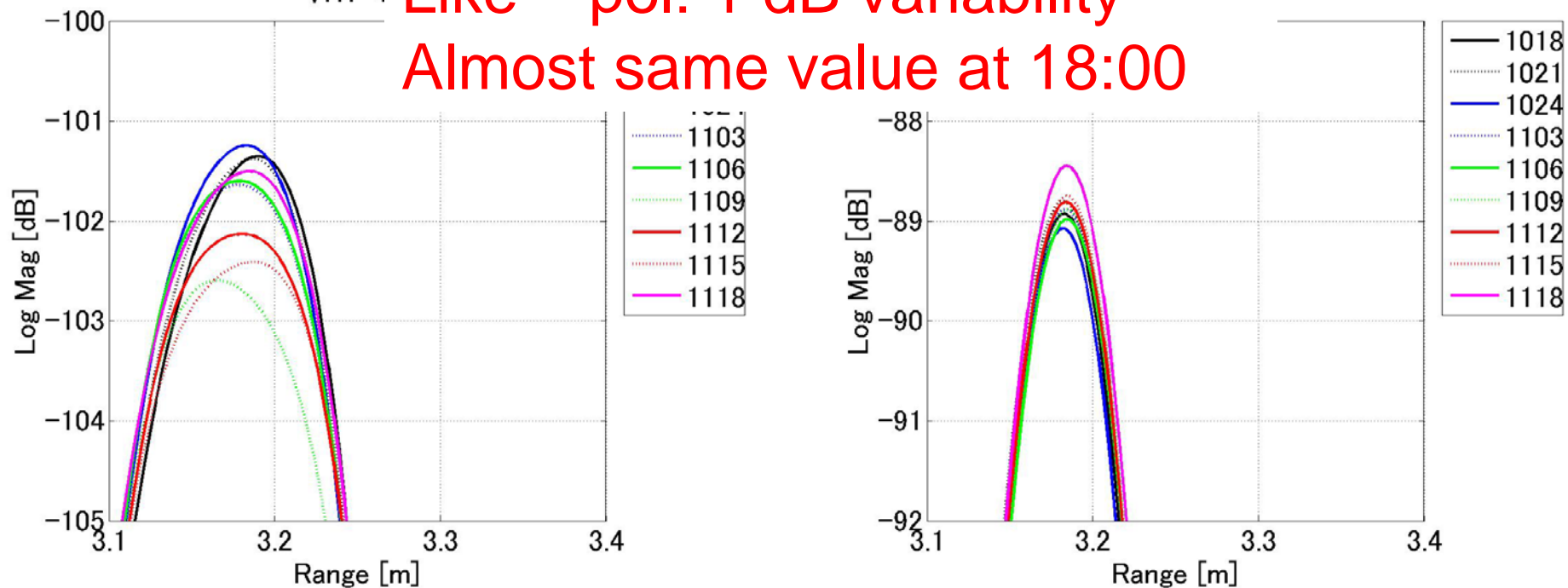
Frequency : **1-10GHz**

Date : Sep. 9th, 18:00~11th, 18:00, 2008
(**48 hours, Every 3 hours**)

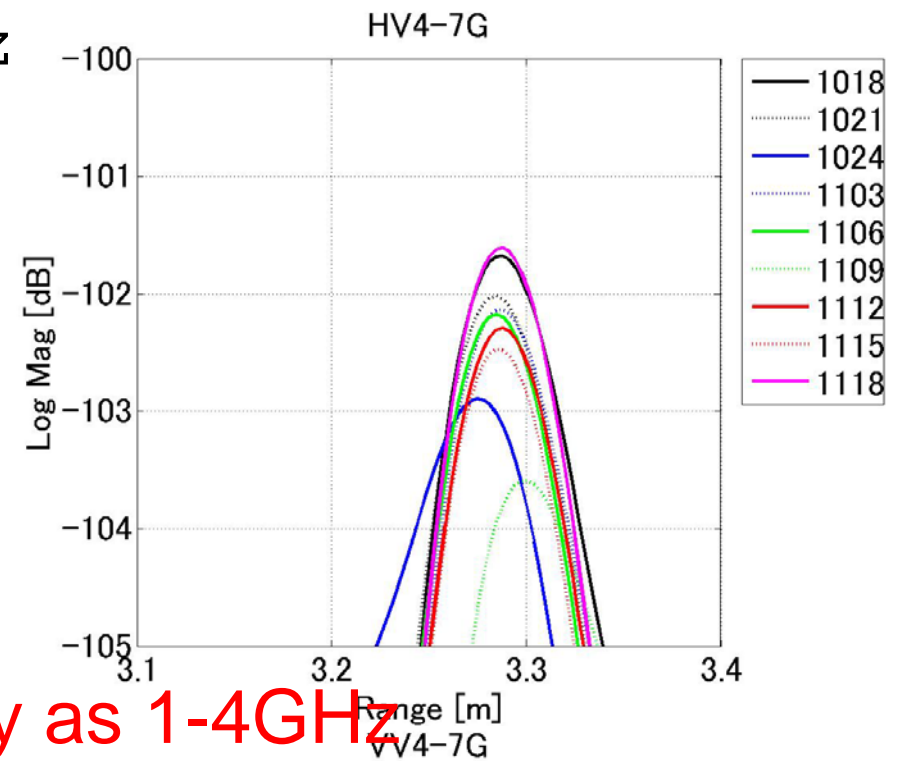
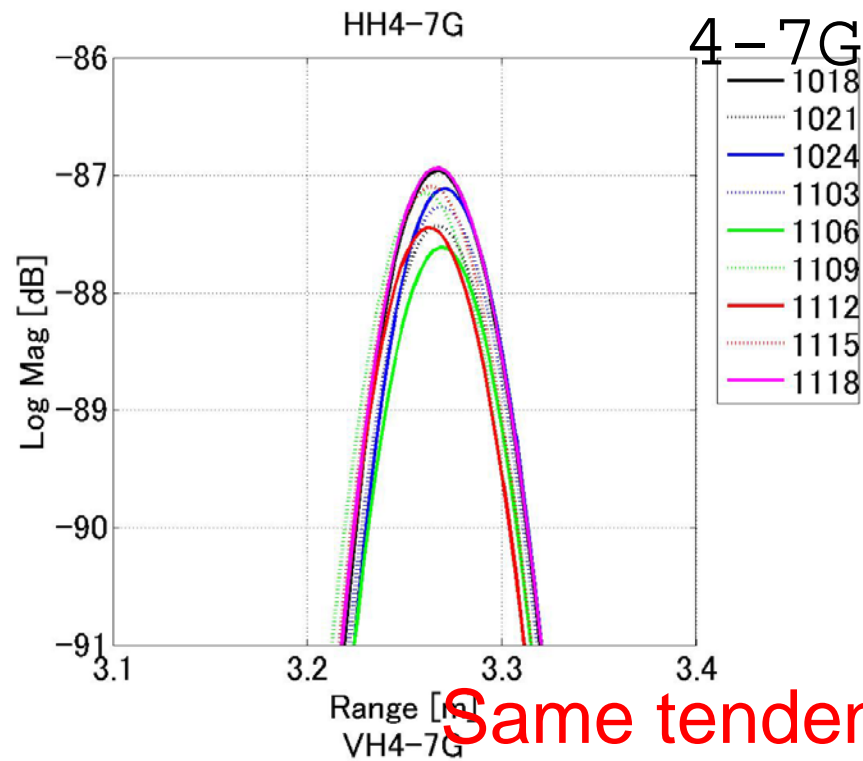




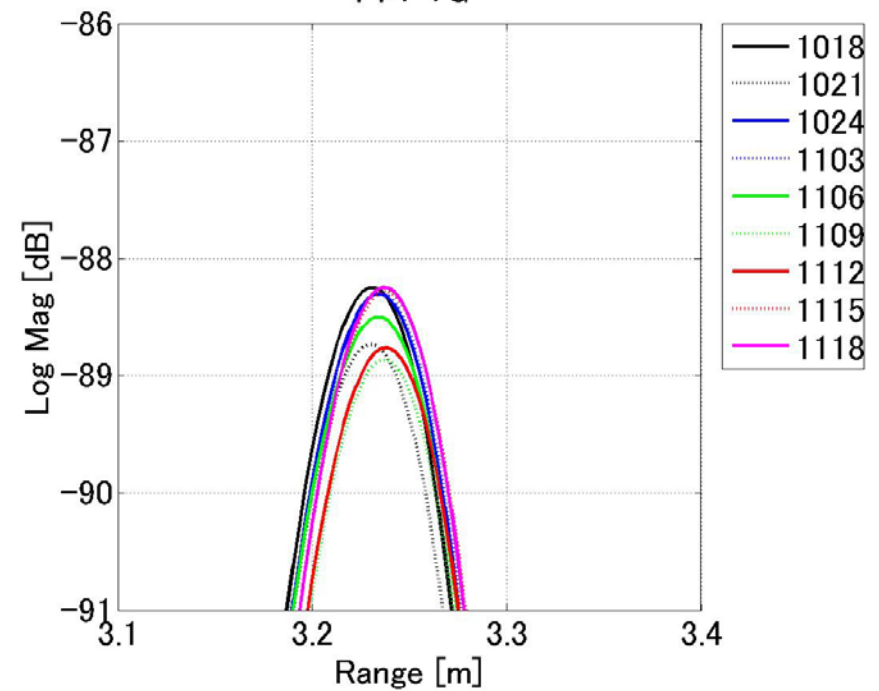
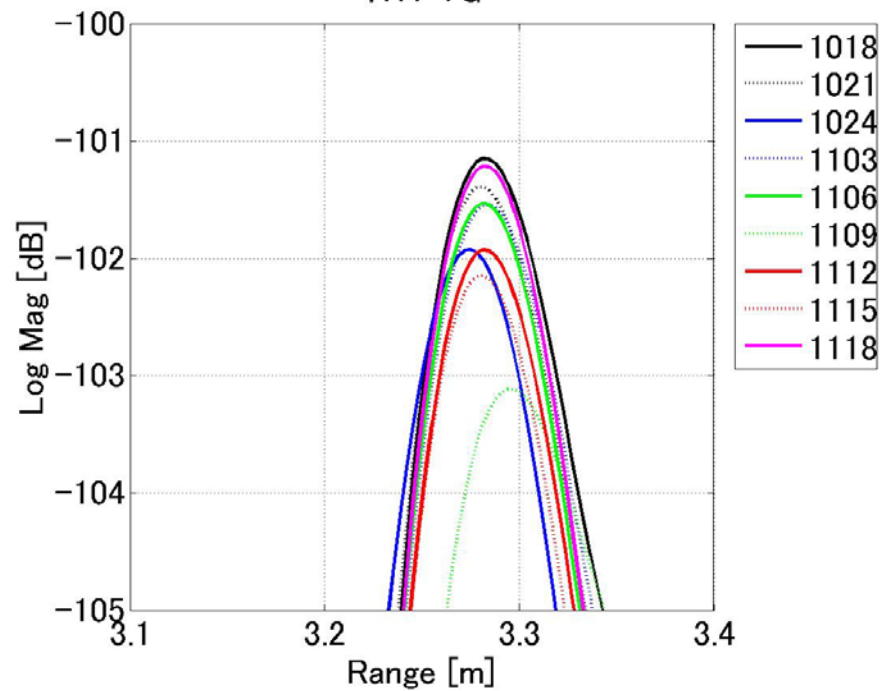
Cross pol.: A few dB variability
Like pol: 1 dB variability
Almost same value at 18:00

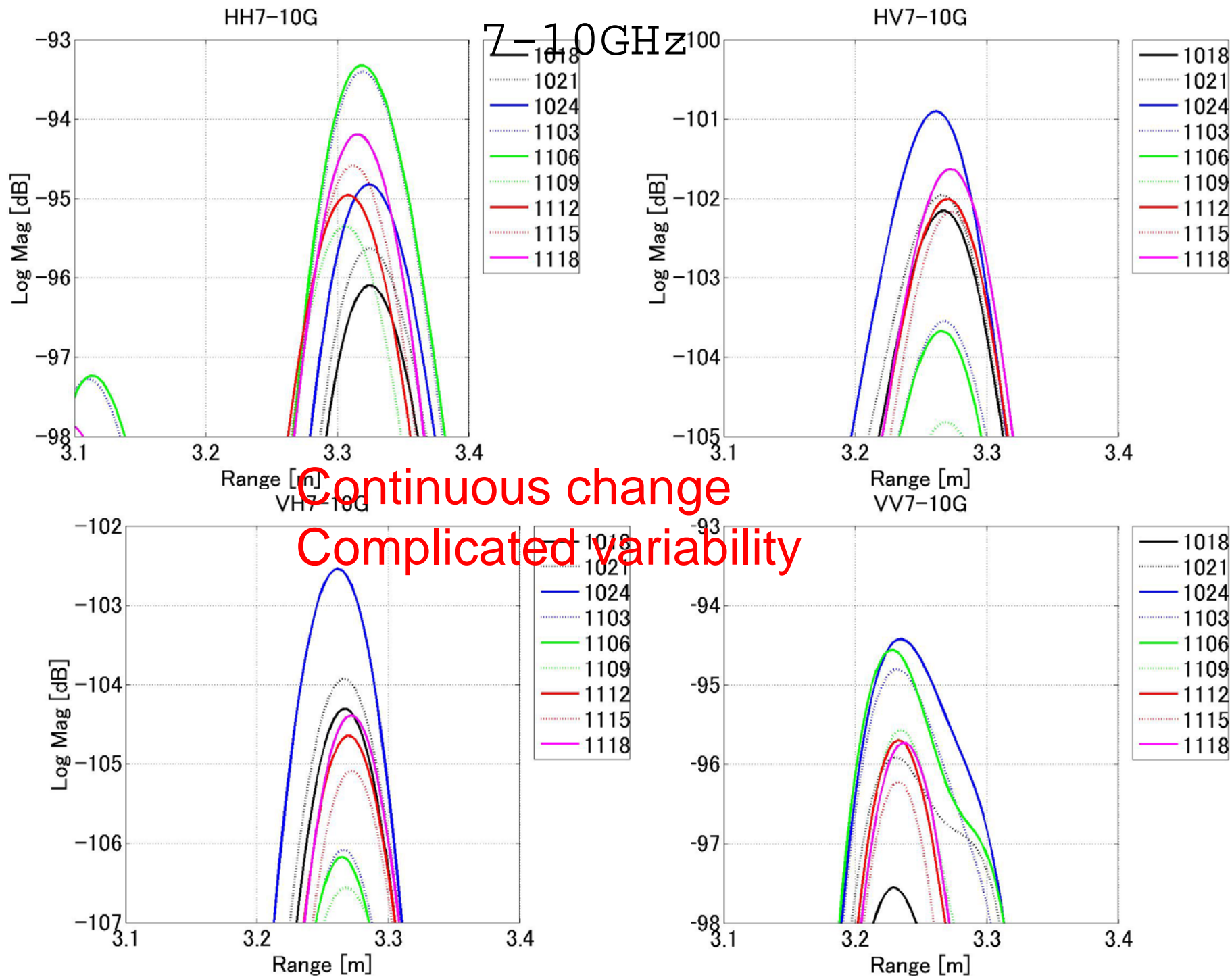


4-7GHz



Same tendency as 1-4GHz





Summary

- Daily variation of σ^0 from a tree (1-4GHz, 4-7GHz).
 - Cross pol.: A few dB variability
 - Like pol.: 1 dB variability
 - σ^0 peak around 18:00
- Complicated variability(7-10GHz).

