

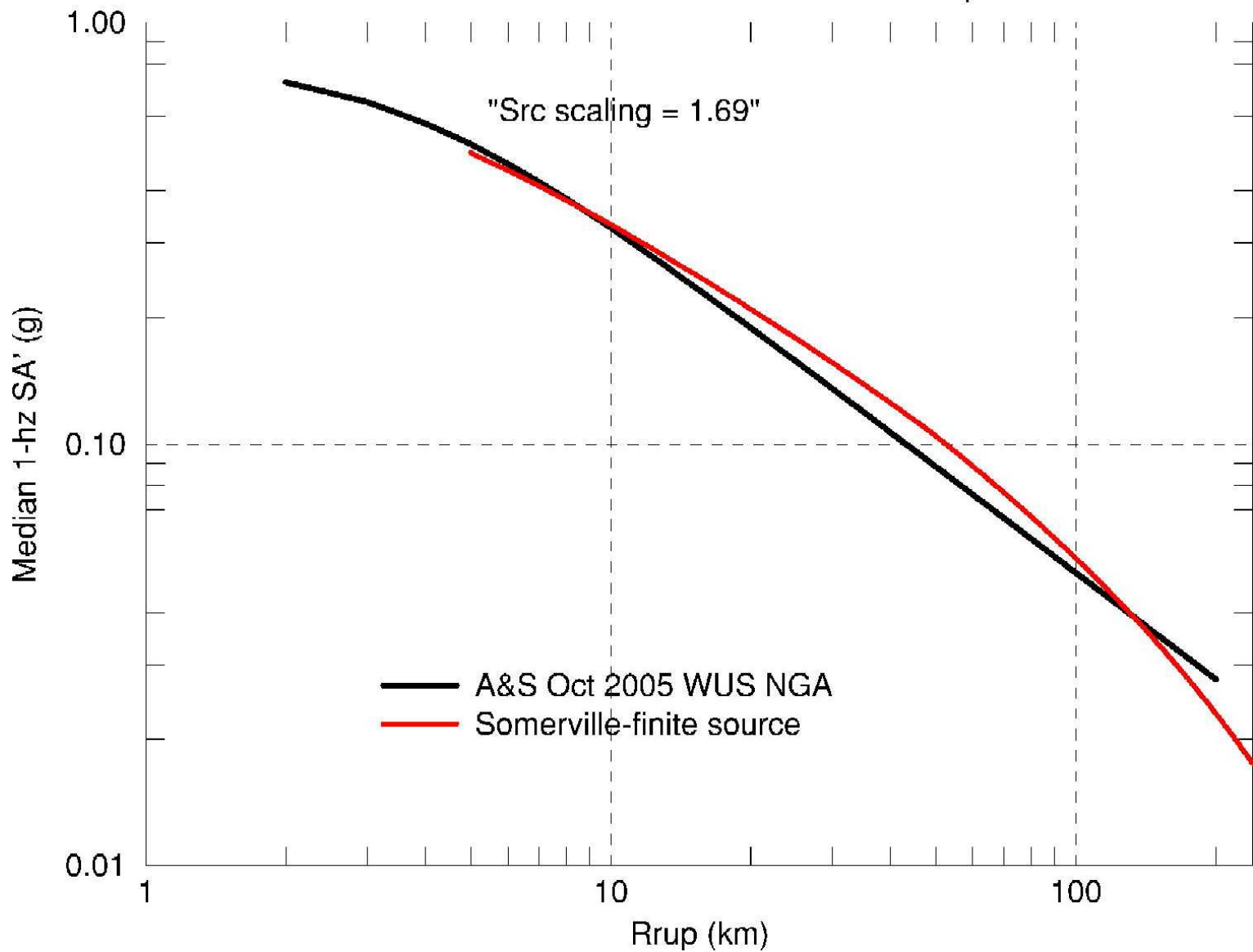
# Some Comparisons of NGA Medians with CEUS Medians

Or, is WUS attenuation any  
different from CEUS attenuation?

Stephen Harmsen, USGS

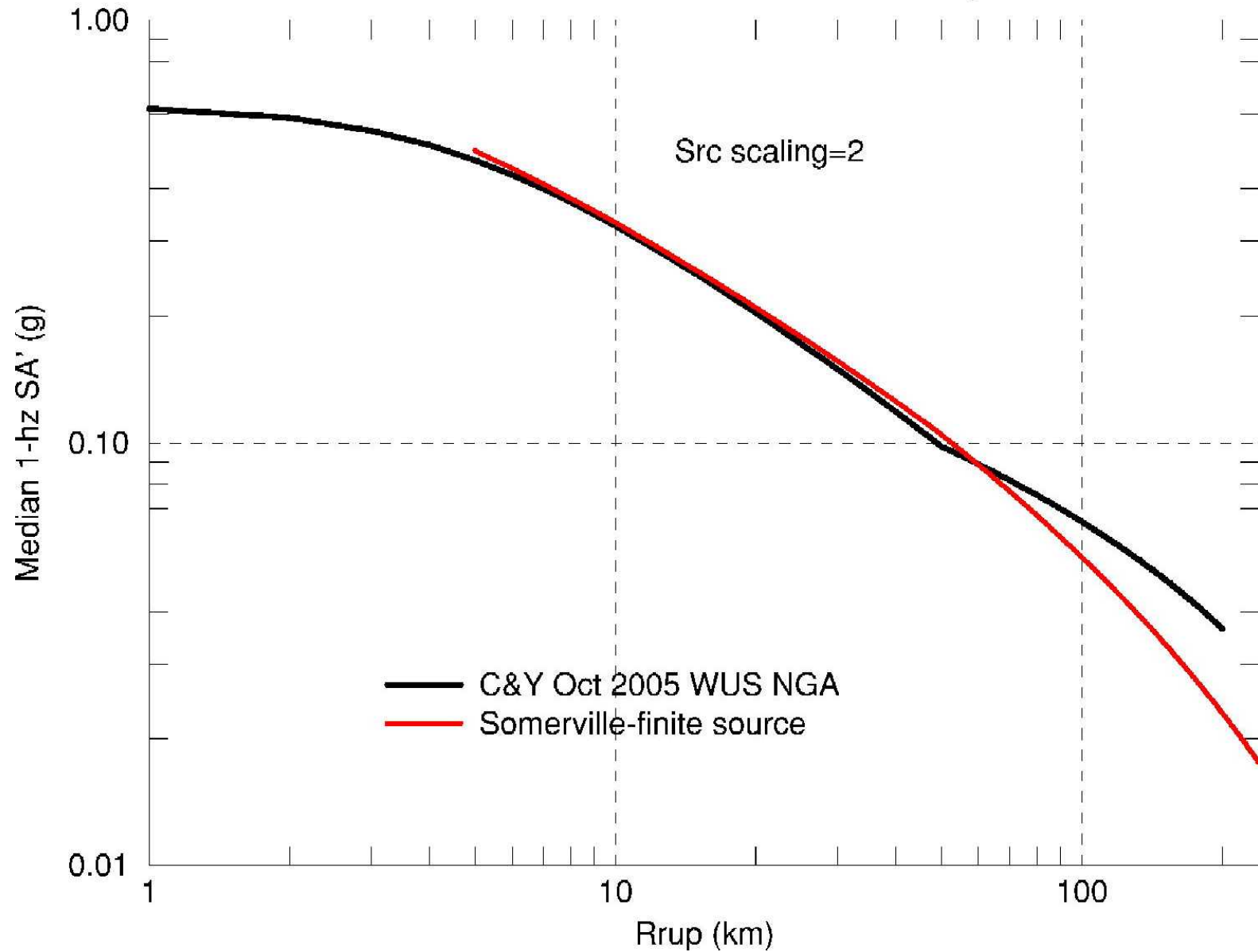
# AS 1 Hz NGA versus Somerville2001

Mw 7.0. A&S scaled to match Somerville at Rrup= 10 km



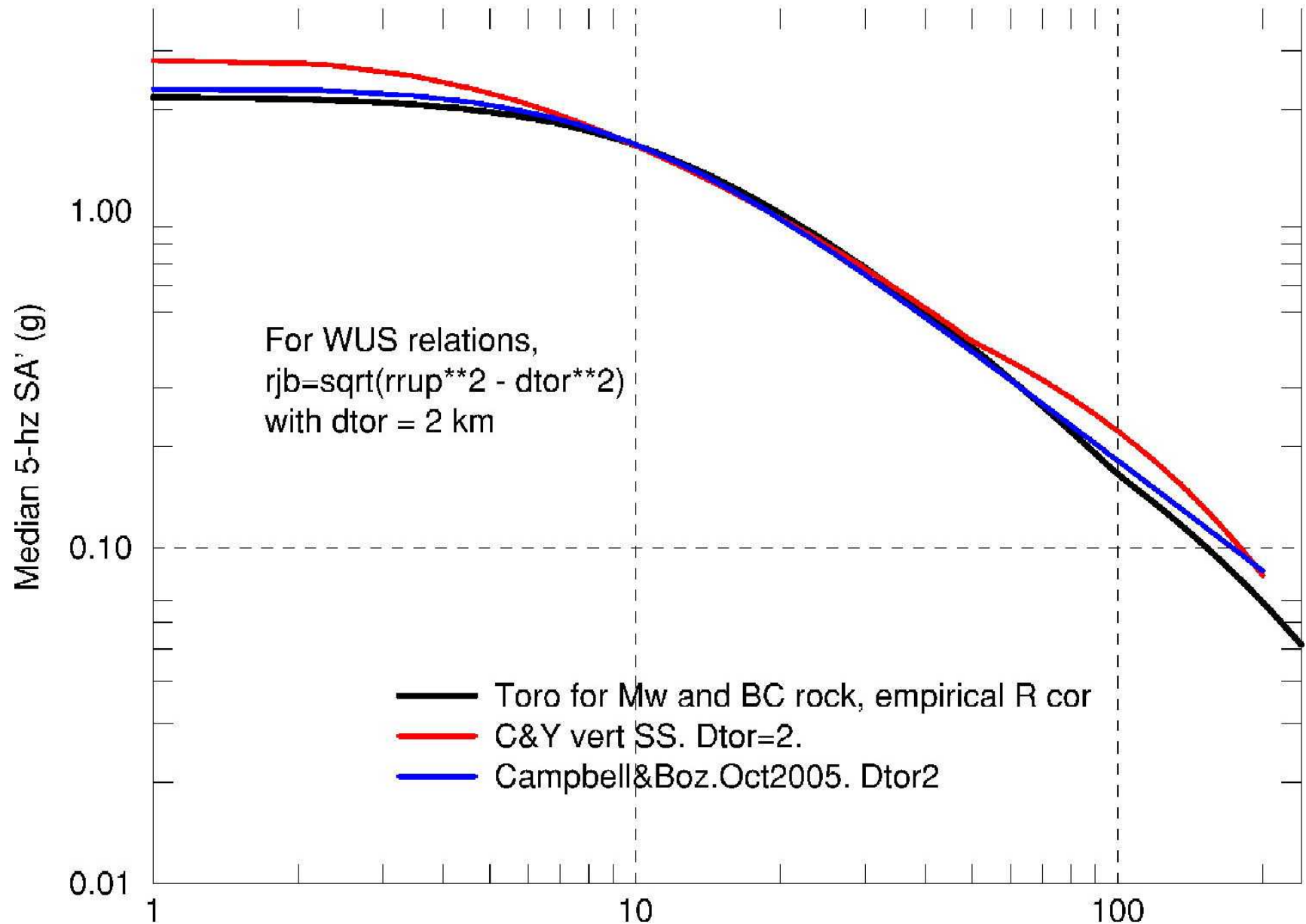
# CY 1 Hz NGA versus Somerville2001

Mw 7.0. A&S scaled to match Somerville at Rrup= 10 km



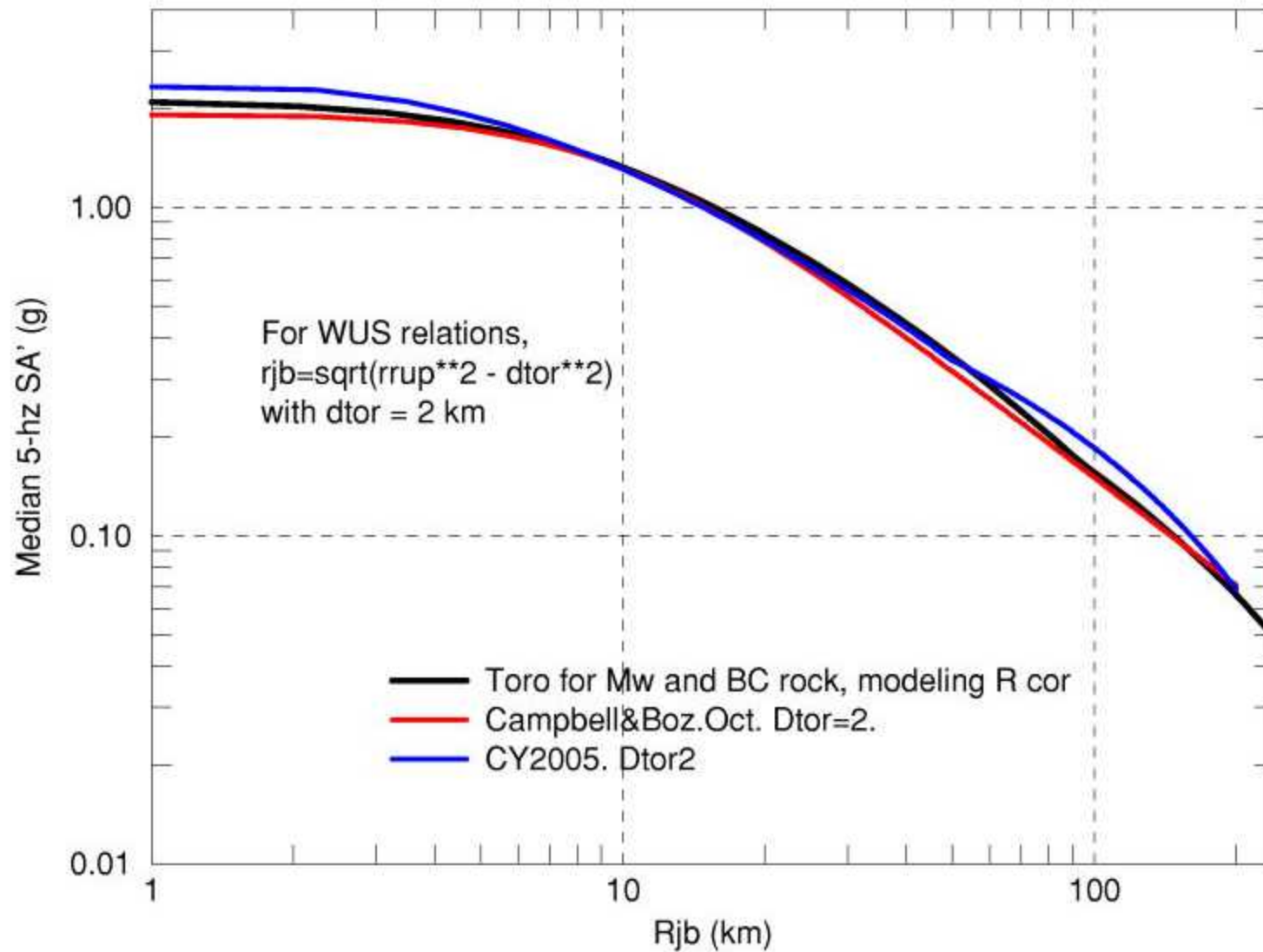
# CY&CB 5 Hz NGA versus Toro97w/Empirical Rcor

Mw 7.0. CY&CB scaled to match Toro at Rjb= 10 km



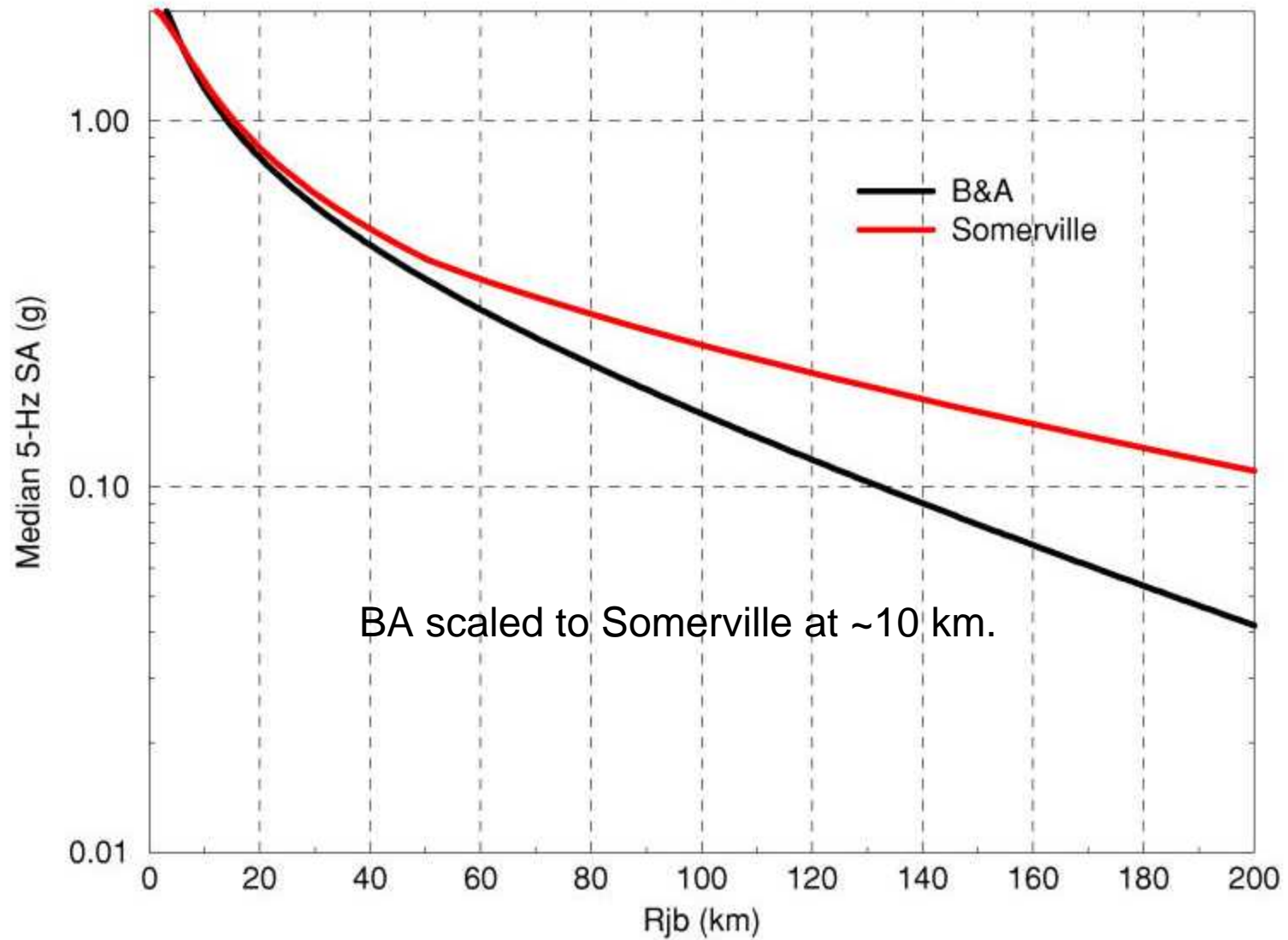
# CY&CB 5 Hz NGA versus Toro97w/Modeling Rcor

Mw 7.0. CY&CB scaled to match Toro at Rjb= 10 km



# Boore / Atkinson NGA Dec 2005 and Somerville Finsrc

5-hz SA on rock with vs30 760 m/s



# Conclusions

- For 1-hz PSA: Several WUS attenuation model medians have about the same diminution with distance as several CEUS models in (0,200 km) range
- For 5-hz PSA: Several WUS attenuation models have about the same diminution with distance as several CEUS models
- Only significant difference between several WUS & CEUS medians is in source scaling:  $\times 2$
- Some modern relations exhibit the classic WUS/CEUS difference, e.g., BA 2005 for 5-hz SA compared to Somerville.