Correction of the data on RW coupling with regard to reverse coupling

Stieger et.al. investigated forward and reverse stimulation of the cochlear in temporal bone specimen. They measured velocities at the stapes footplate and the round window and inner ear pressures at scala vestibuli and scala tympani. They provide transfer functions of stapes velocity referenced to differential pressure in the cochlear in (Fig 8 in Stieger et al. (Stieger et al., 2013)). Assuming that the differential pressure is the driving force of basilar membrane motion, these transfer function provide stapes velocities in forward and reverse stimulation that cause equal auditory sensation. The ratio of both transfer functions thus gives the difference of stapes velocity between forward and reverse stimulation (see supplemental digital content 2).

These data can be used to compare forward and backward cochlear stimulation, when just stapes movement had been measured. The difference given in supplemental digital content 4 must be added to the measured stapes movement for reverse stimulation to get values comparable to forward stimulation.