

Figure 1 The three backrest conditions: (a) no backrest; (b) short backrest; (c) high backrest.

BODY MAP

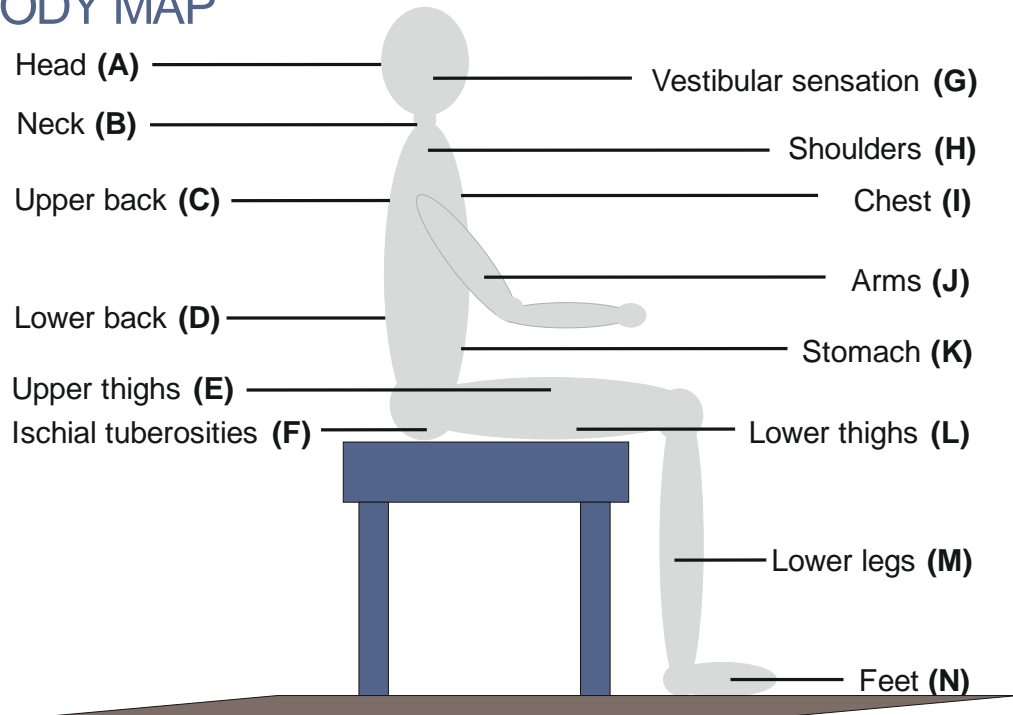


Figure 2 Body map used by subjects to indicate the location of discomfort caused by lateral oscillation, roll oscillation, and fully roll-compensated lateral oscillation.

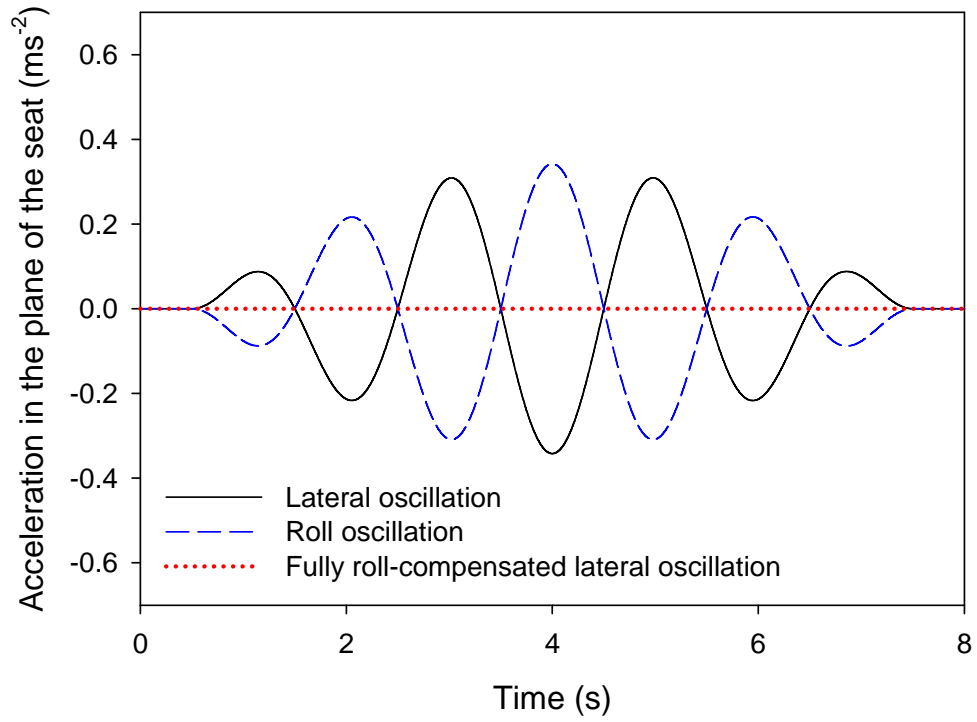


Figure 3 Example waveforms for 0.5-Hz oscillation showing the acceleration in the plane of the seat for lateral oscillation, roll oscillation, and fully roll-compensated lateral oscillation.

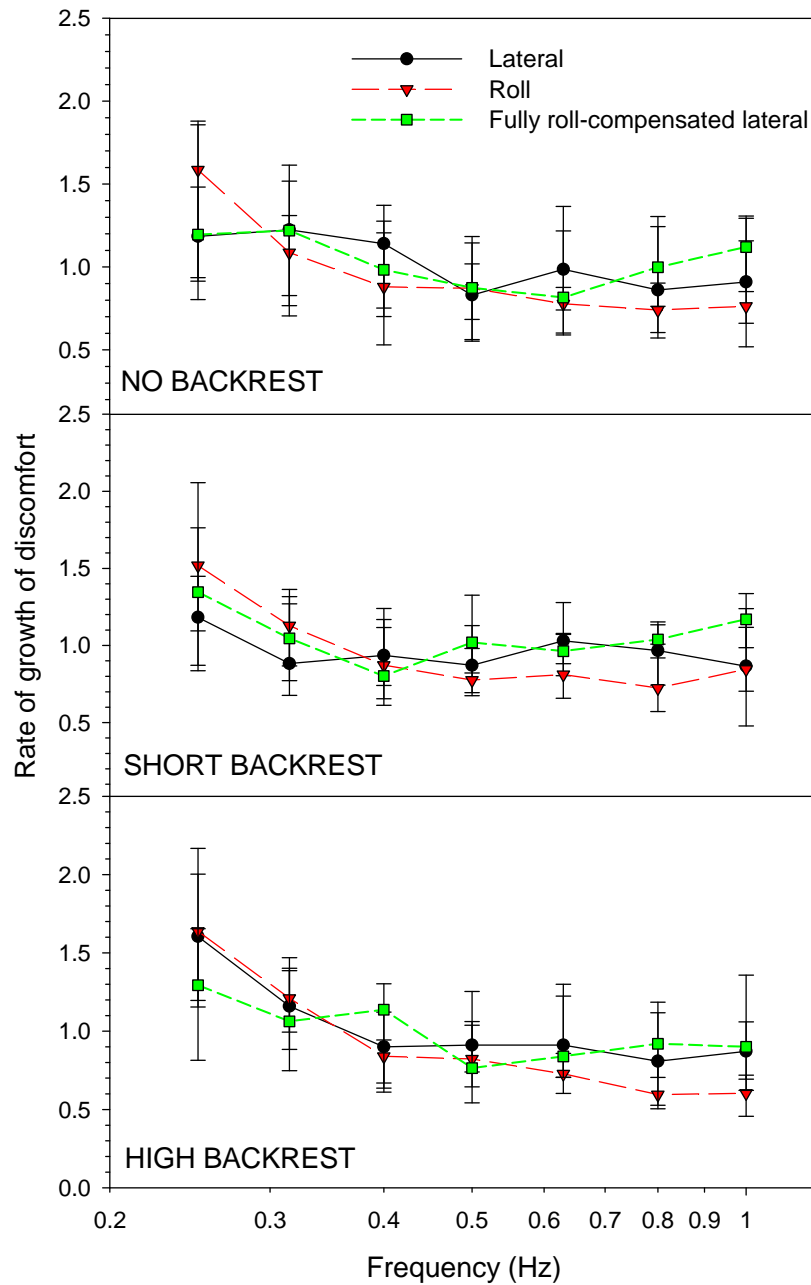


Figure 4 Median rates of growth of discomfort for lateral oscillation, roll oscillation, and fully roll-compensated lateral oscillation with no backrest, a short backrest and a high backrest. Upper and lower error bars show 75th and 25th percentiles, respectively.

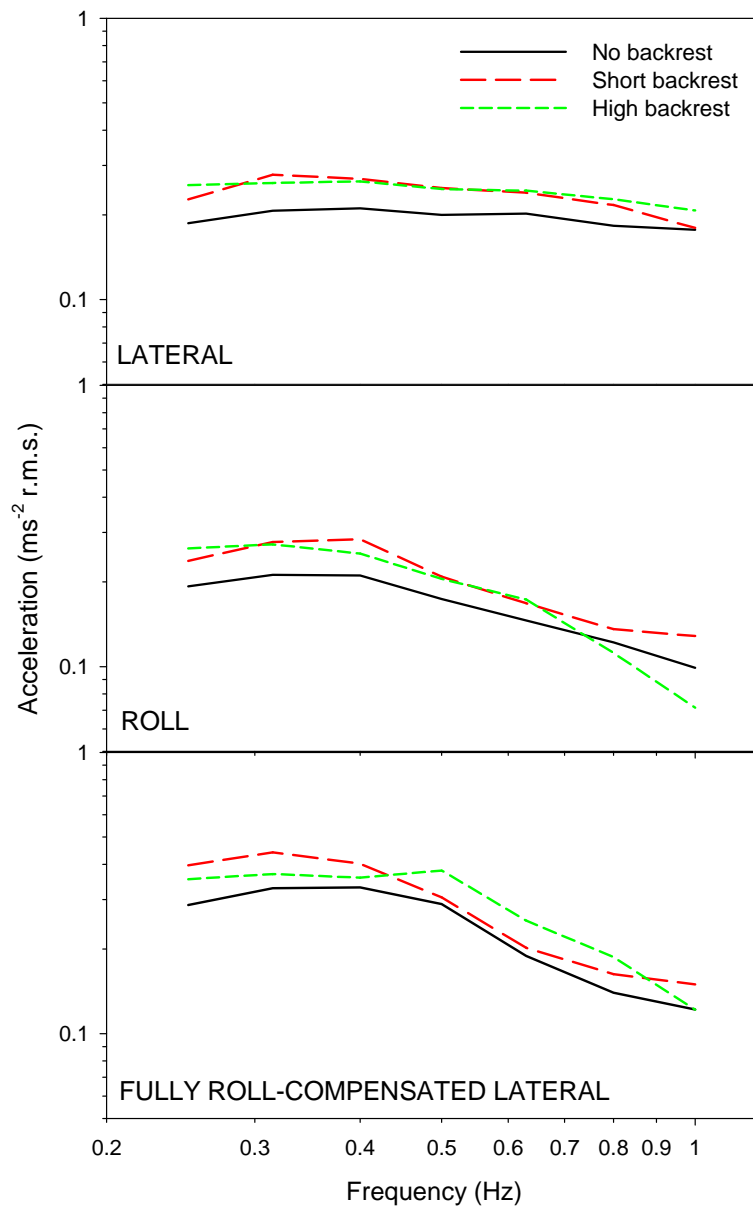


Figure 5 Effect of backrest height on adjusted median equivalent comfort contours for lateral, roll and fully roll-compensated lateral oscillation. Contours represent discomfort equivalent to that arising from lateral oscillation at 0.5 Hz, 0.2 ms^{-2} r.m.s. on a rigid seat without backrest.

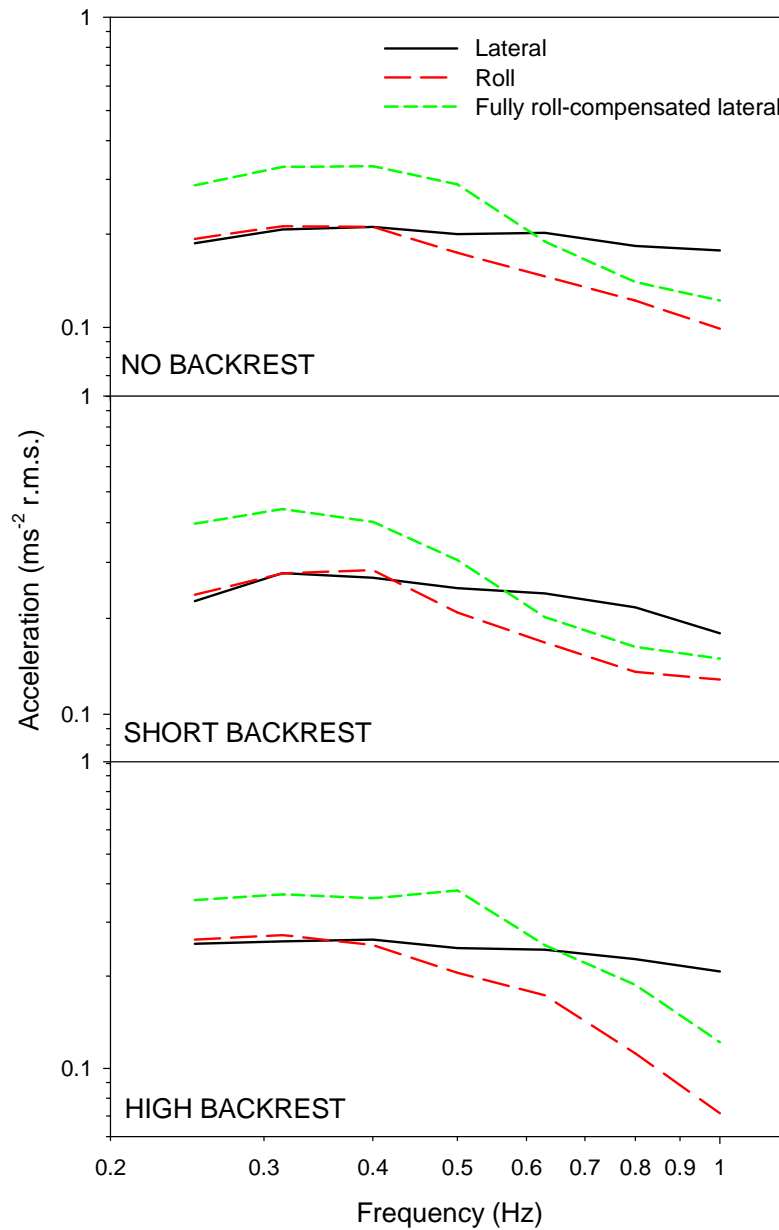


Figure 6 Effect of direction on median equivalent comfort contours for the three seat configurations (no backrest, short backrest, and high backrest). Contours represent discomfort equivalent to that arising from lateral oscillation at 0.5 Hz 0.2 ms⁻² r.m.s. on a rigid seat without backrest.

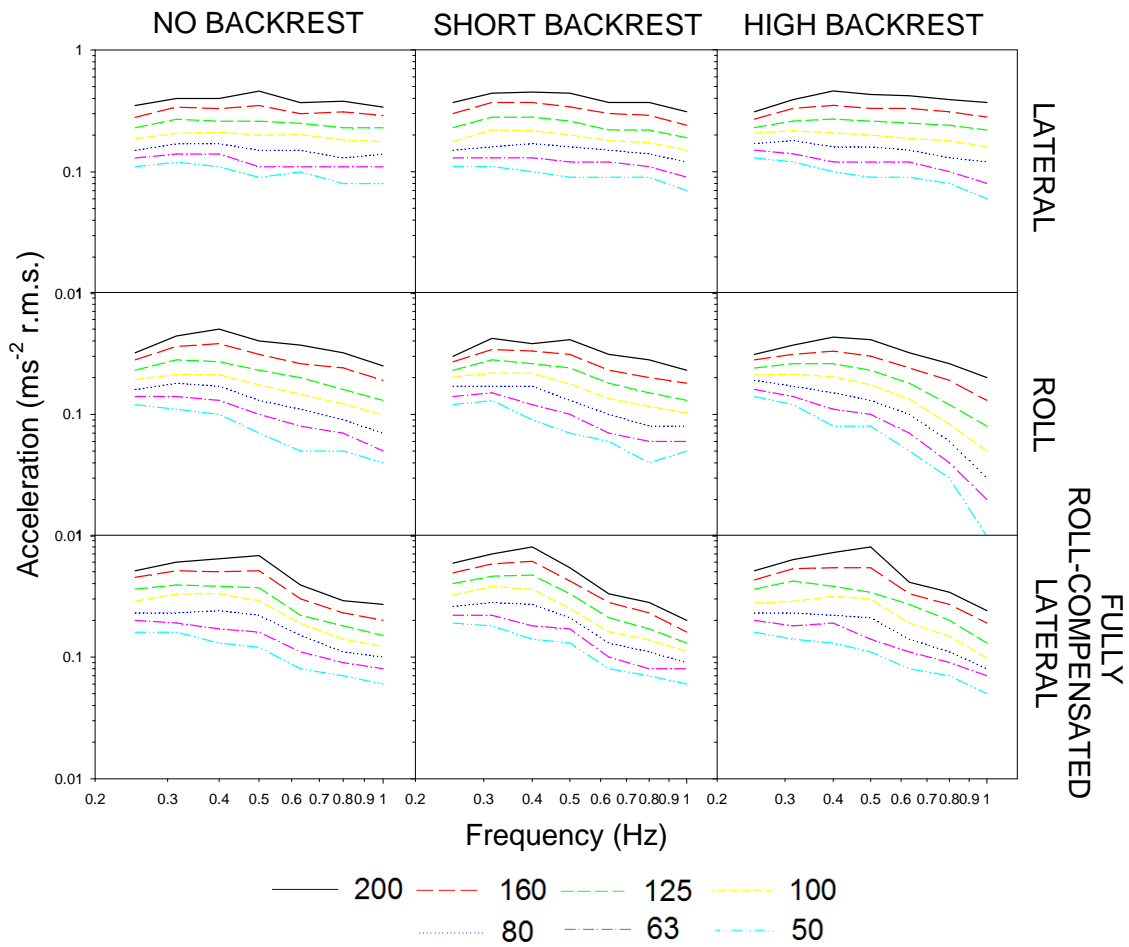


Figure 7 Effect of magnitude of oscillation on equivalent comfort contours for lateral, roll, and fully roll-compensated lateral oscillation when sitting on a rigid seat without a backrest, with a short backrest, and with a high backrest. Contours represent subjective magnitudes of 50, 63, 80, 100, 125, 160 and 200.

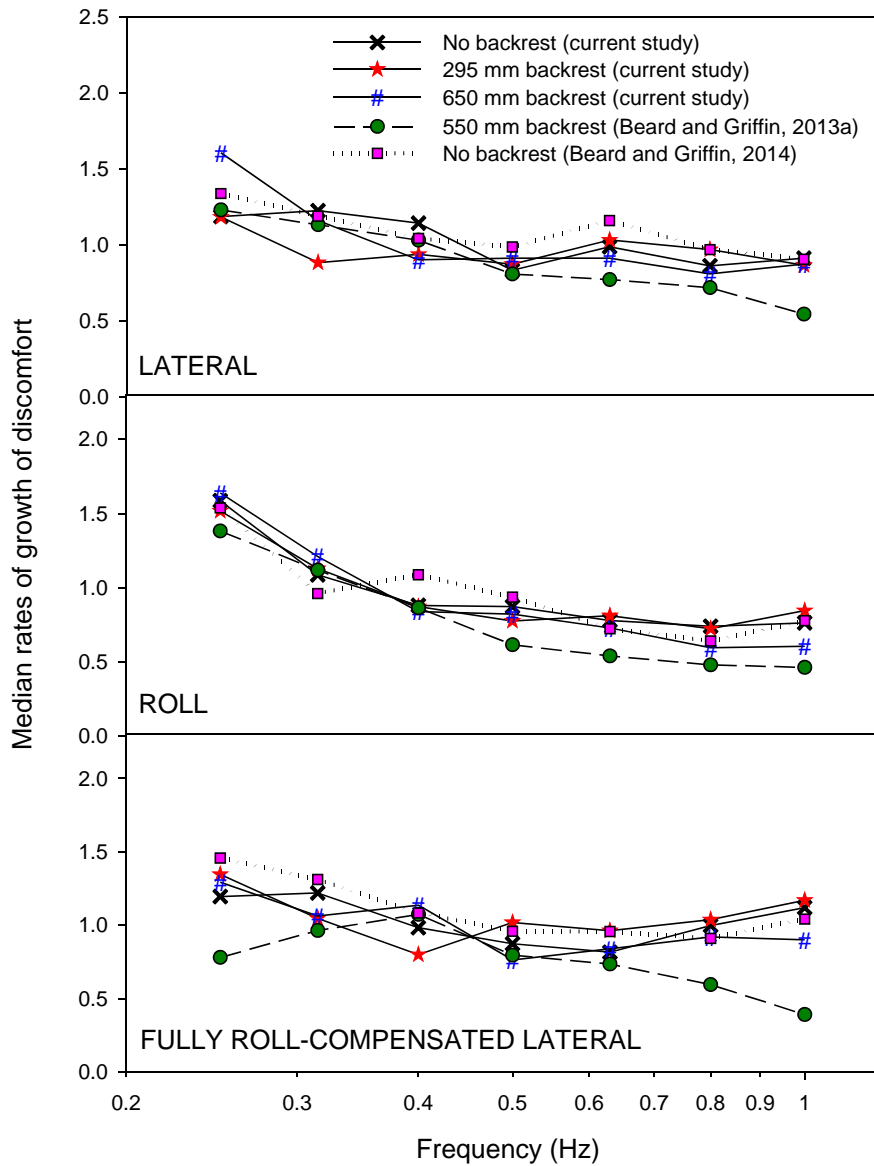


Figure 8 Comparison of median rates of growth of discomfort for lateral, roll, and fully roll-compensated lateral oscillation in the current study and those reported in previous research.

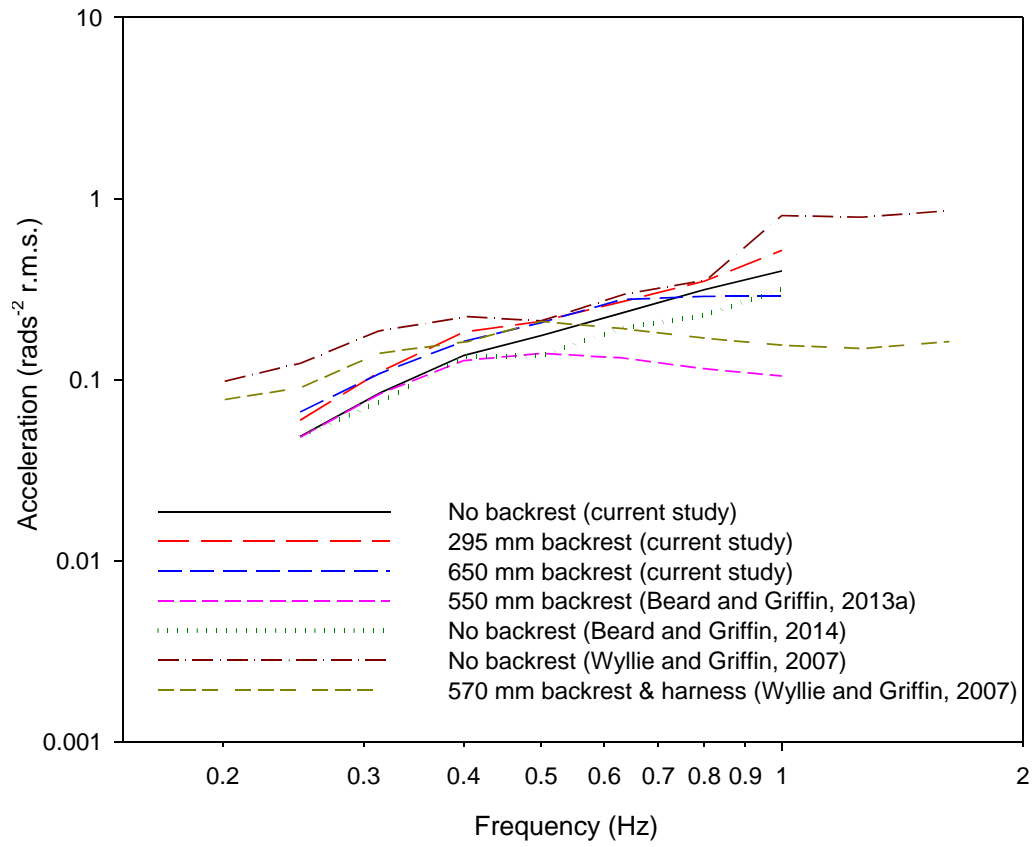


Figure 9 Comparison of equivalent comfort contours for roll oscillation from the current study with those reported in previous research.

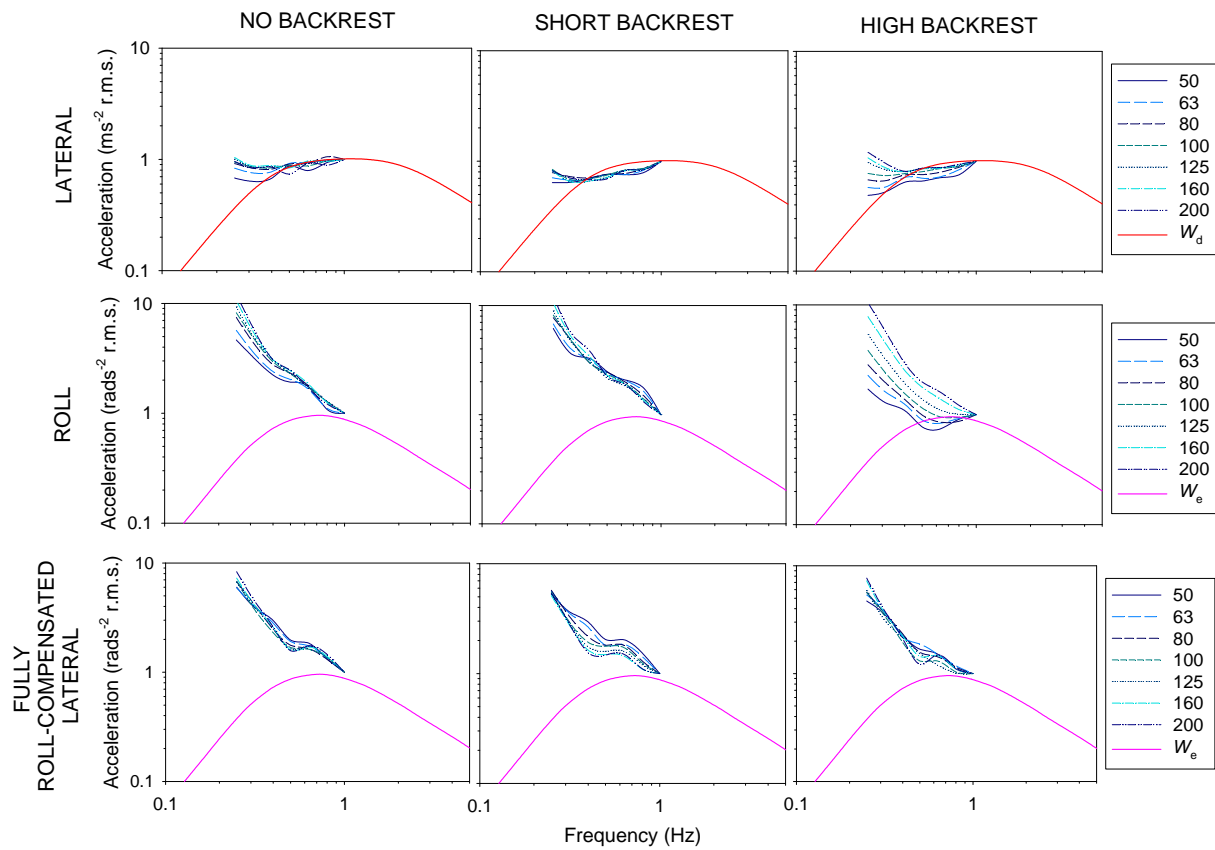


Figure 10 Comparison of current frequency-weightings with inverted median equivalent comfort contours for lateral, roll, and fully roll-compensated lateral oscillation with all backrest conditions. Contours (normalised to unity at 1 Hz) represent subjective magnitudes of 50, 63, 80, 100, 125, 160 and 200.