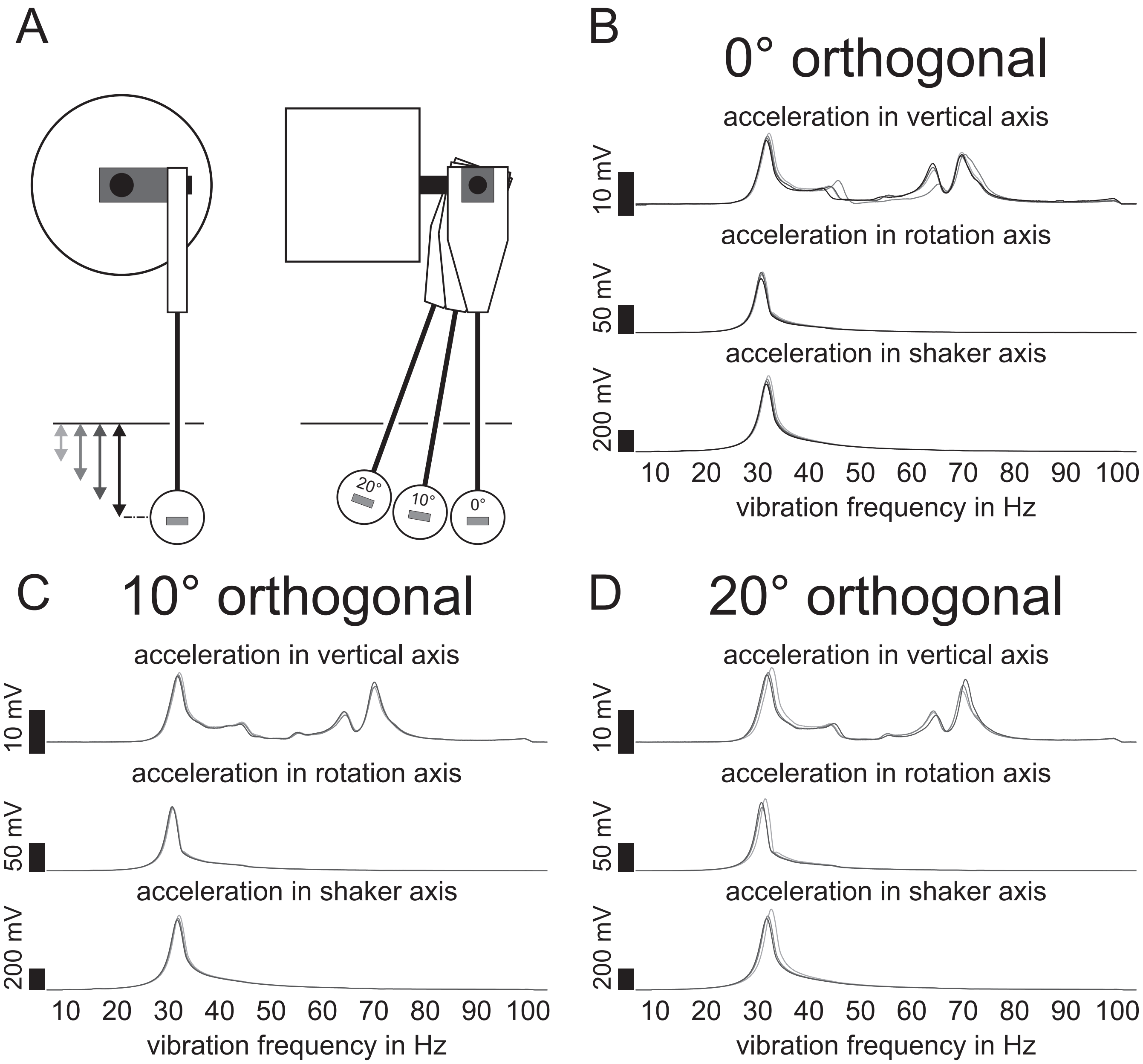

Figure S1: Influence of water depth and angular orientation (up to 20°) on sphere motion in case of orthogonal mounting. A: experimental setup. **B to D**: rms values (10 runs each, curves show mean values) of the acceleration signals in shaker axis, transverse axis (in rotation axis) and vertical axis for the vertical orientations of 0° (B), 10° (C) and 20° (D). Gray scale indicates a water level above the sphere center of 25 mm (black), 20 mm (dark gray), 15 mm (gray) and 10 mm (light gray) (see also A). Note that a 25 mm water level was only measured for 0° due to steric limitations in sphere placement. In each case a non-equalized sweep was used to drive the mini-shaker.

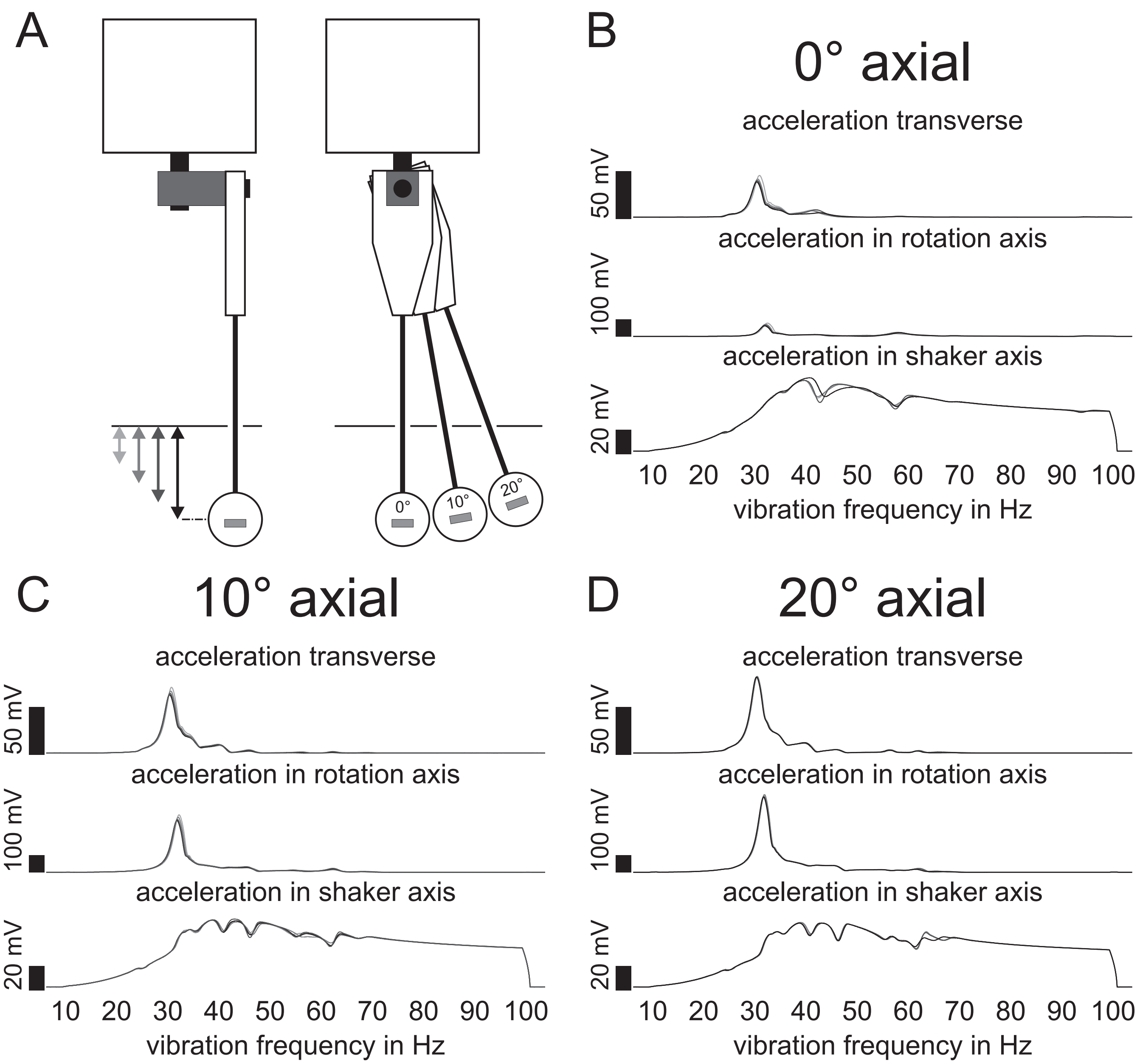

Figure S2: Influence of water depth and angular orientations (up to 20°) on sphere motion in case of axial mounting. A: experimental setup. **B to D**: rms values (10 runs each, curves show mean values) of the acceleration signals in shaker axis, transverse axis (in rotation axis) and vertical axis for vertical orientation of 0° (B), 10° (C) and 20° (D). Gray scale indicates a water level above the sphere center of 25 mm (black), 20 mm (dark gray), 15 mm (gray) and 10 mm (light gray) (see also A). Note the spatial distance between the carbon rod and the shaker axis induced by the mounting adapter (gray block in A). In each case a non-equalized sweep was used to drive the mini-shaker.