

Model Parameters

Table 1 Material Properties: SAND3

Density (Mg/m3)	1.99
Shear Modulus (kPa)	73700
Bulk Modulus (kPa)	196800
Cohesion (kPa)	1.73
Friction Angle (°)	30.3
Peak Strain (%)	10
Number Yield Surface	20
Reference Pressure (kPa)	101
Phase Transformation Angle (°)	25.3
Contraction Parameter c1	0.035
Contraction Parameter c2	3
Contraction Parameter c3	0.2
Dilation Parameter d1	0.15
Dilation Parameter d2	3
Dilation Parameter d3	0.2
Liquefaction 1	1
Liquefaction 2	0
mType	0
Contraction Parameter b1	0.5
Contraction Parameter b2	30
Contraction Parameter b3	0
Contraction Parameter b4	0.001
Permeability (m/s)	0.000066

Table 2 Material Properties: PM4SAND

Saturated Density (Mg/m3)	2.0254
Shear Modulus (kPa)	73700
Bulk Modulus (kPa)	196800
porosity	0.38600883389574
h_p	0.4
Permeability (m/s)	0.000066

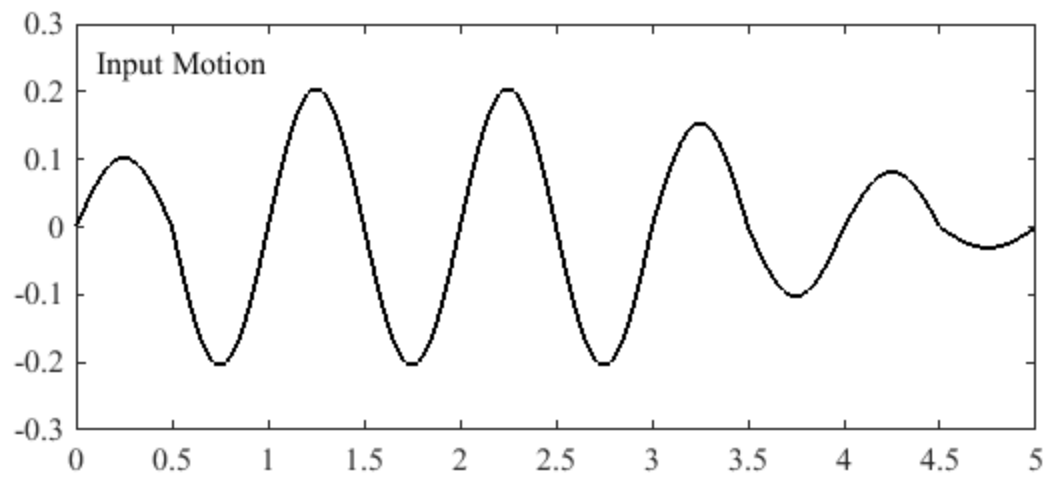


Figure 1 Input Motion

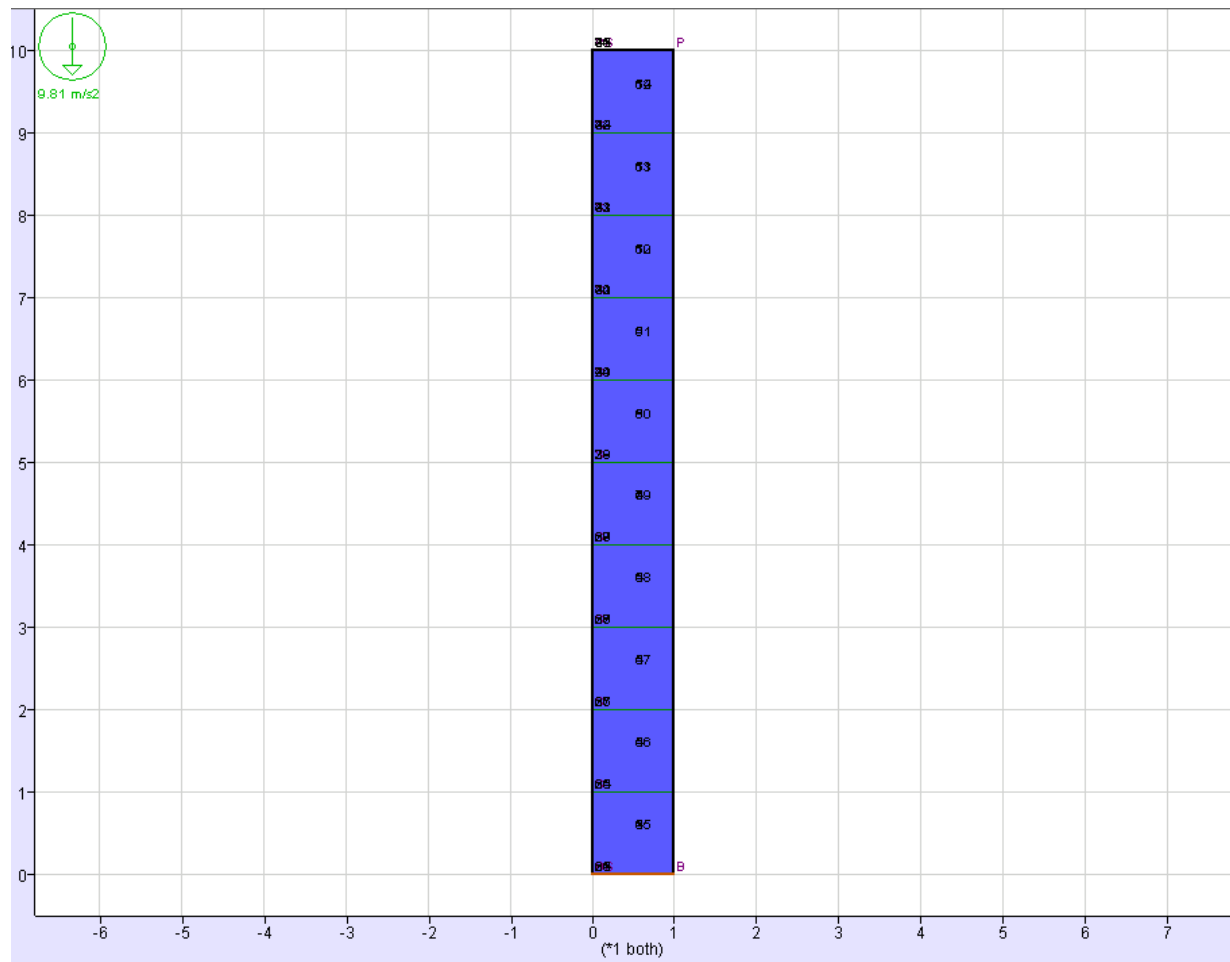


Figure 2 Shear Beam Model

Acceleration Time History

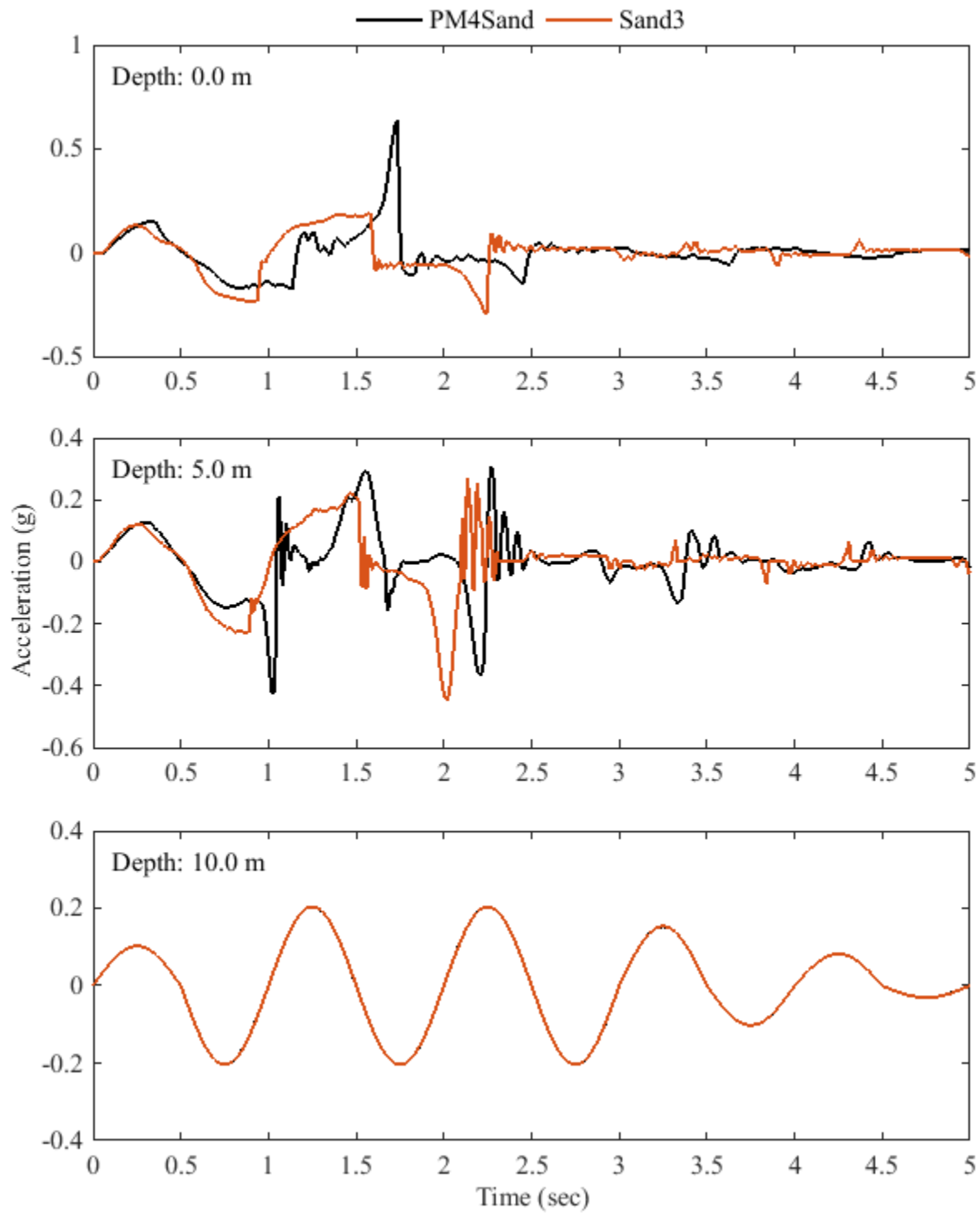


Figure 3 Acceleration time history at ground surface (top), midheight (middle) and base (bottom)

Stress vs. Strain

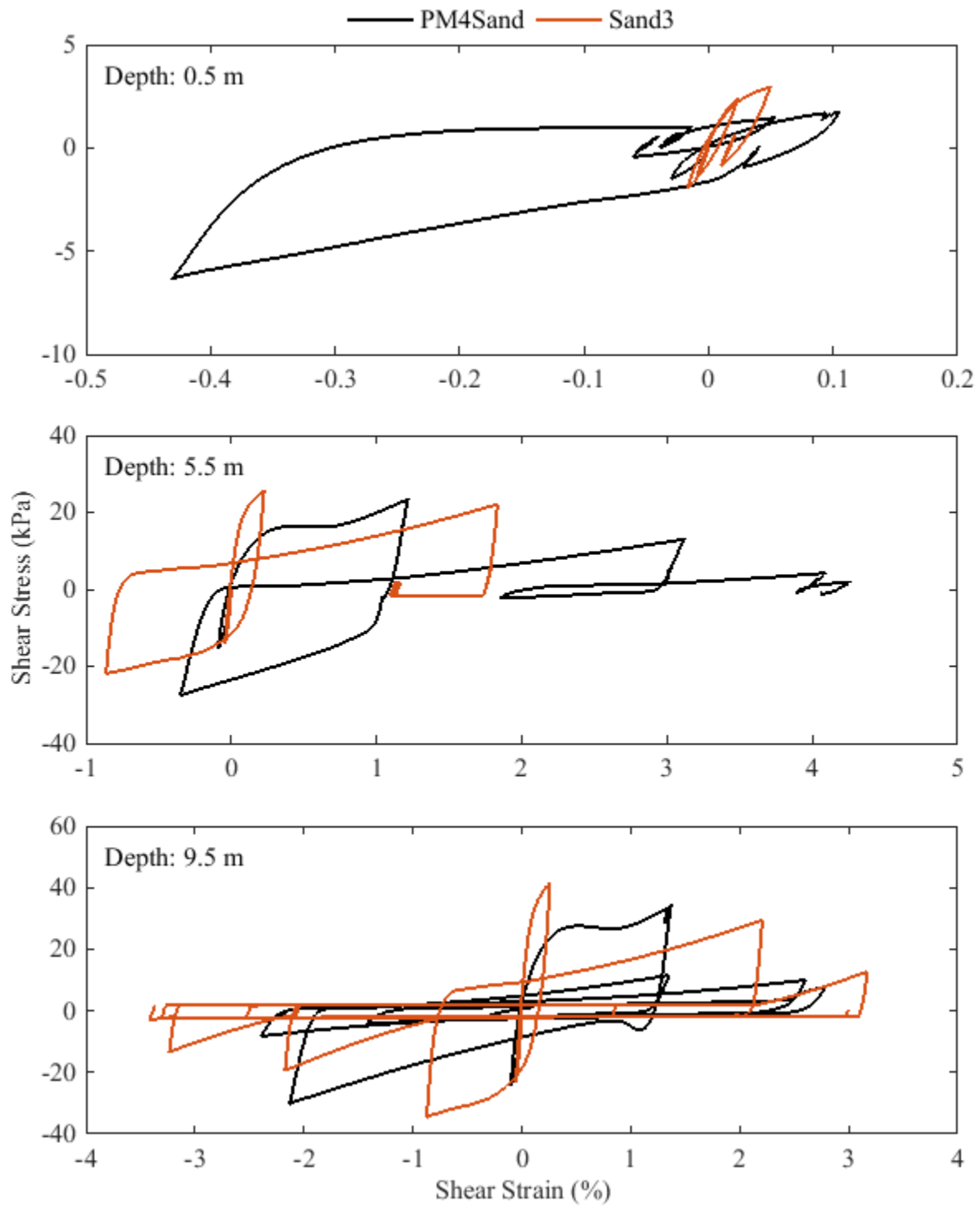


Figure 4 Stress vs. Strain near ground surface (top), near midheight (middle) and near base (bottom)

Displacement Time History

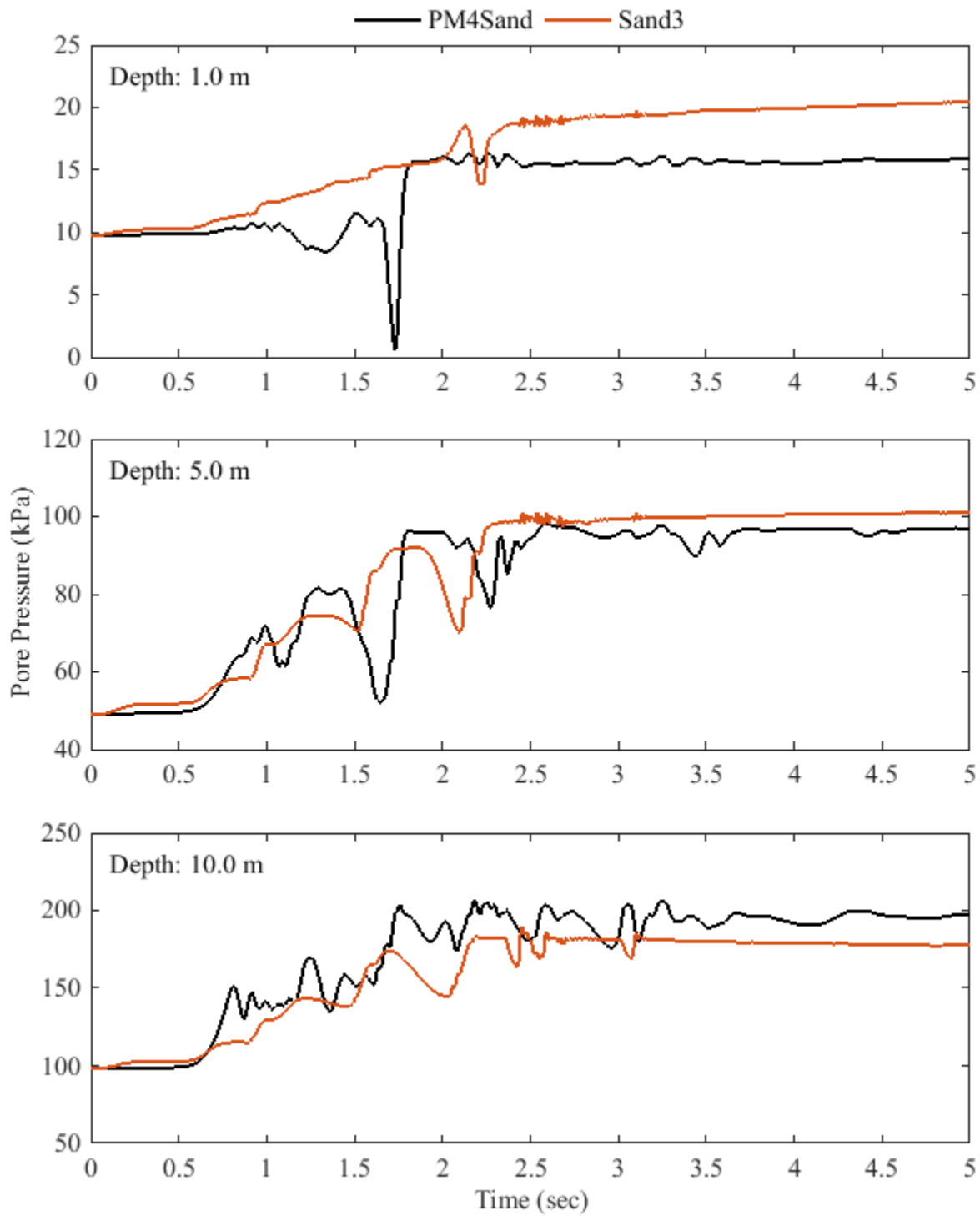


Figure 5 Pore Pressure Time History near ground surface (top), midheight (middle) and base (bottom)