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Ankita Singh

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ASTM	American Society of Testing and Material
CPT	Cone Penetration Test
CRR	Cyclic Resistance Ratio
CSR	Cyclic Stress Ratio
DPI	Dynamic cone Penetration Index
EICP	Enzymatic-Induced Calcite Precipitate
FTIR	Fourier-Transform Infrared Spectroscopy
IS	Indian Standard
LL	Liquid Limit
MDD	Maximum Dry Density
MICP	Microbial Induced Calcite Precipitate
OMC	Optimum Moisture Content
PGA	Peak Ground Acceleration
PI	Plasticity Index
PPT	Pore Pressure Transducers
SEM	Scanning Electron Microscopy
SPT	Standard Penetration Test
XRD	X-Ray Diffraction
a_{max}	Peak horizontal ground acceleration
β	Contamination Depth Ratio
C_u	Coefficient of Uniformity
Cc	Coefficient of Curvature
d	Depth of pore pressure transducer from free surface
D_r	Relative Density

D_{50}	Particle size corresponding to 50% passing
D_{60}	Particle size corresponding to 60% passing
δ_N	Degradation index
e	Void ratio
e_{min}	Minimum void ratio
e_{max}	Maximum void ratio
f	Frequency
g	acceleration due to gravity ($9.8 m/s^2$)
G_0	Initial cyclic secant shear modulus
G_N	Secant shear modulus at N^{th} cycle
G_{max}	Maximum shear modulus
$G_{max,cont}$	Maximum shear modulus of contaminated sand
$G_{max,clean}$	Maximum shear modulus of clean sand
G_s	Specific gravity
L_{TT}	Wave travel distance
N	Number of loading cycles
N_L	Number of cycles to liquefaction
r_d	Stress reduction factor
R_d	Number of wavelengths in one sample length
r_u	Normalized pore pressure ratio
r_{umax}	Maximum normalized pore pressure ratio
ρ	Mass density
σ_c	Confining stress
σ_c'	Effective confining stress
σ_{vo}	Total overburden stress
σ_{vo}'	Effective overburden stress
t	Degradation parameter
T_L	Time elapsed till liquefaction

τ_N	Cyclic shear stress amplitude at N^{th} cycle
Δt	Wave travel time
Δu	Excess pore fluid pressure
Δu_{max}	Maximum excess pore fluid pressure
V_s	Shear wave velocity
V_{s1}	Corrected shear wave velocity
$V_{s\text{-}clean}$	Shear wave velocity of clean sand
$V_{s\text{-}6\%}$	Shear wave velocity of 6% contaminated sand
$V_{s\text{-}12\%}$	Shear wave velocity of 12% contaminated sand
ω	Crude oil content
γ	Cyclic shear strain