

# CENA NEHRP SITE AMPLIFICATION SIMULATIONS

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WORKING GROUP  
November 10, 2016

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- Characterization of Nonlinearity
  - RVT Equivalent-Linear Approximation
- Subset of EPRI Cohesionless Soil Curves
  - 0 to 50 ft            EPRI 51 to 120 ft
  - 51 to 500 ft        EPRI 501 TO 1,000 ft

- Based on Point and Finite Source Modeling of Recordings
  - Rock and Soil Sites
  - 15 earthquakes, 500 sites
  - Abrahamson & Silva GMPE
- Positive High Frequency Bias Extending Nonlinearity > 500 ft
  - Sample Disturbance
  - Ratio of Lab/Field  $V_s < 1$
- Low Strain Damping > 500 ft Constrained by Kappa

# DASG NEHRP Bins

NEHRP	$\bar{v}_s(30m)(m/s)$	Depth (3,000m/s)(m)	K(s)	Curves
A (reference)	3,000	-----	0.006	L
A	2,032	$54.5 \pm 25$	0.006	L
B	1,170	$500 \pm 150$	0.020	PR
BC (Gradient)	760	$2,342 \pm 1,000$	0.020	PR
BC (Till)	760	$80 \pm 40$	0.020	PR
BC (Saprolite)	760	$200 \pm 150$	0.020	PR
C	550	$1,066 \pm 500$	0.040	PR
D	270	$1,691 \pm 1,541$	0.040	PR
DE	180	$1,760 \pm 1,610$	0.040	PR