

**Digital Appendix for:
Generation of synthetic spectrum-compatible bi-
directional ground motions with specific
directionality**

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²*Department of Urban Management, Kyoto University, Kyoto, Japan.*

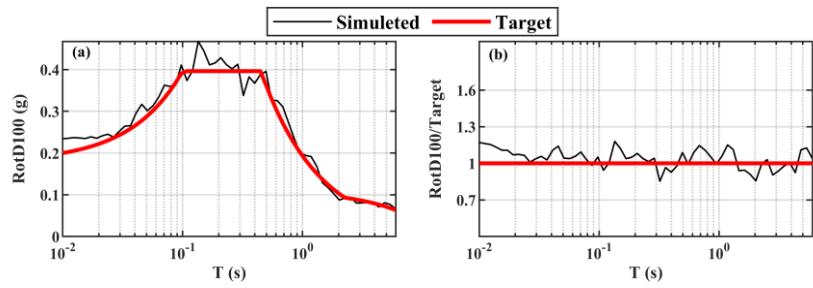
³*Disaster Prevention Research Institute, Kyoto University, Kyoto, Japan.*

⁴*Department of Civil and Environmental Engineering, Tohoku University, Sendai, Japan.*

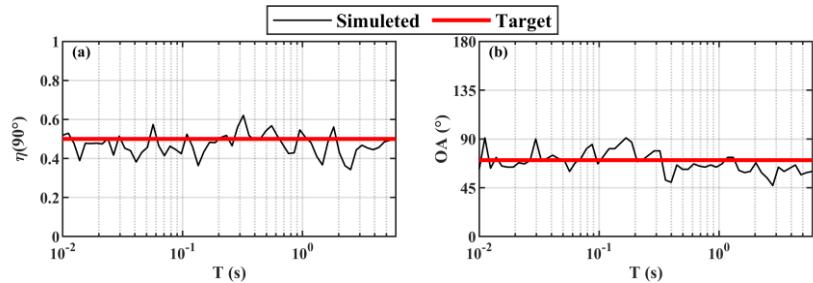
**Results obtained using the CJJ RotD100 response
spectrum**

No. 1

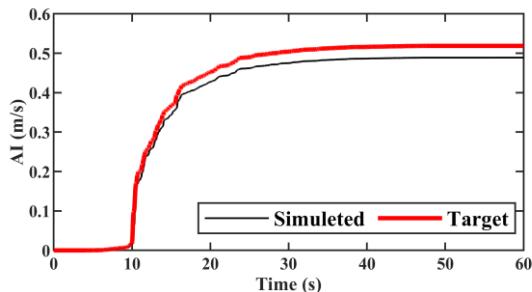
RotD100 response spectrum



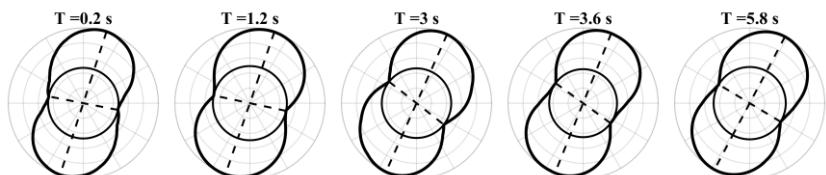
Directionality



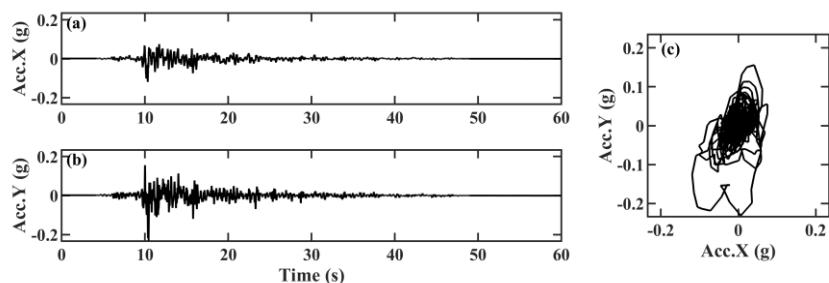
Arias intensity



Spectral demand over all horizontal directions

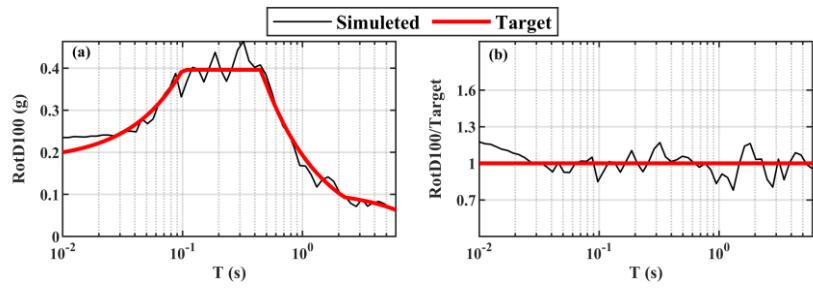


Acceleration time history

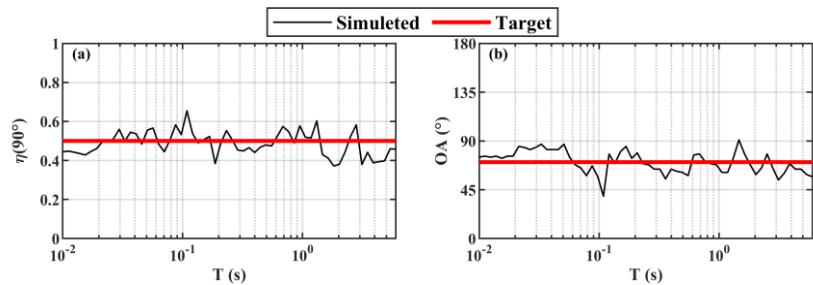


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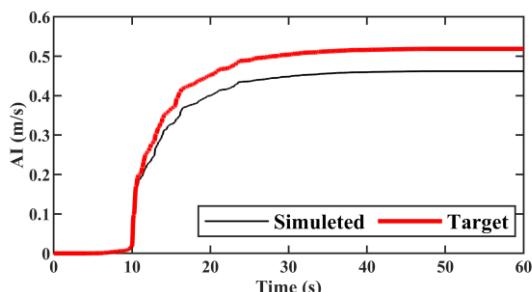
RotD100 response spectrum



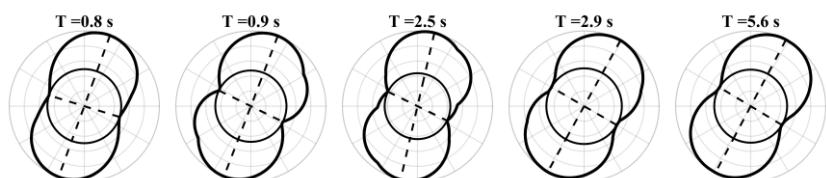
Directionality



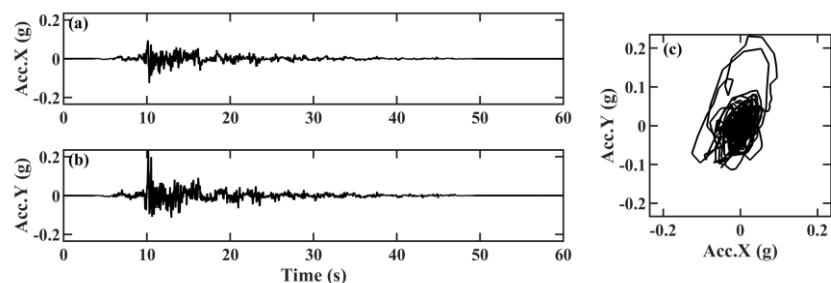
Arias intensity



Spectral demand over all horizontal directions

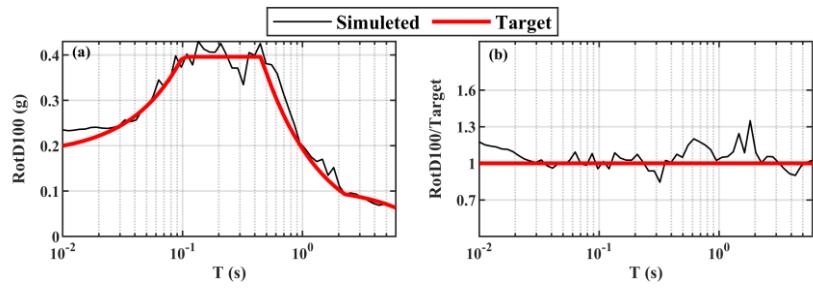


Acceleration time history

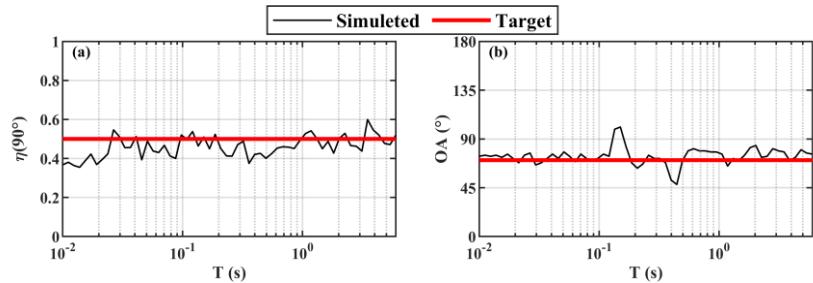


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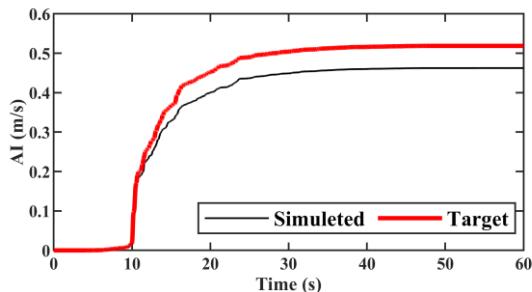
RotD100 response spectrum



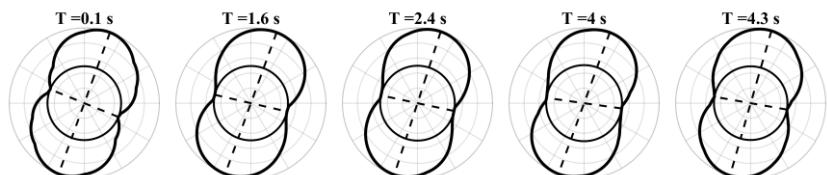
Directionality



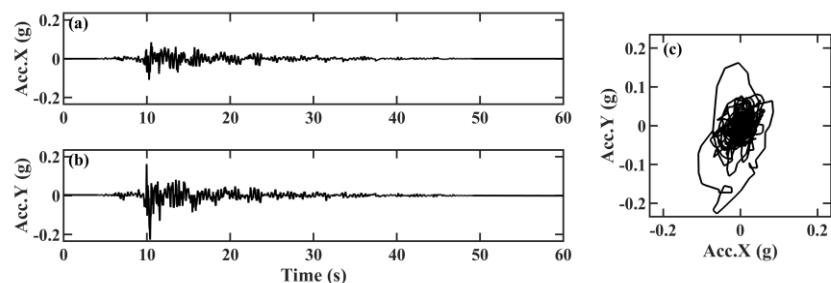
Arias intensity



Spectral demand over all horizontal directions

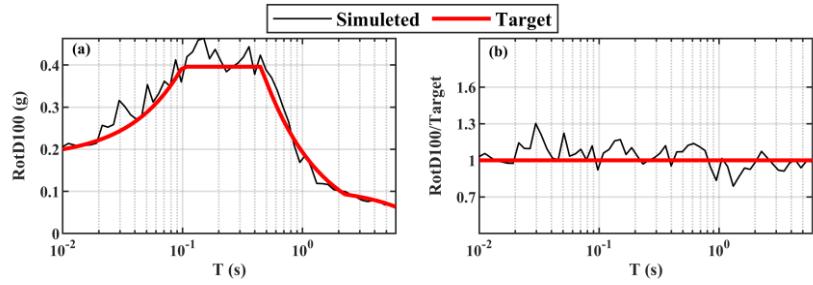


Acceleration time history

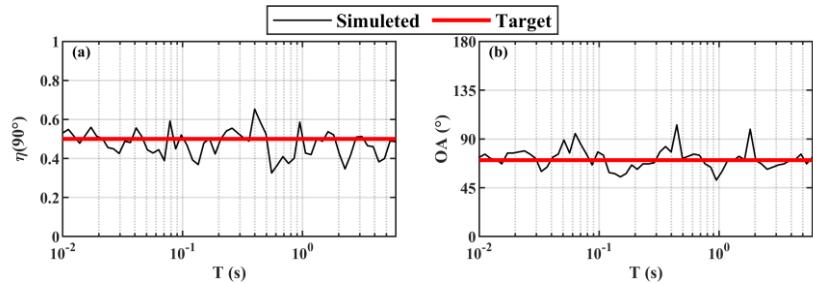


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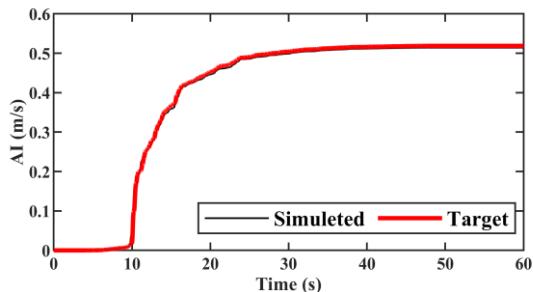
RotD100 response spectrum



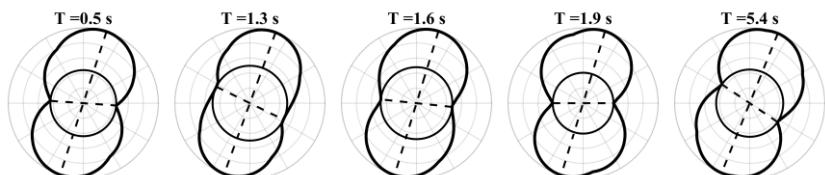
Directionality



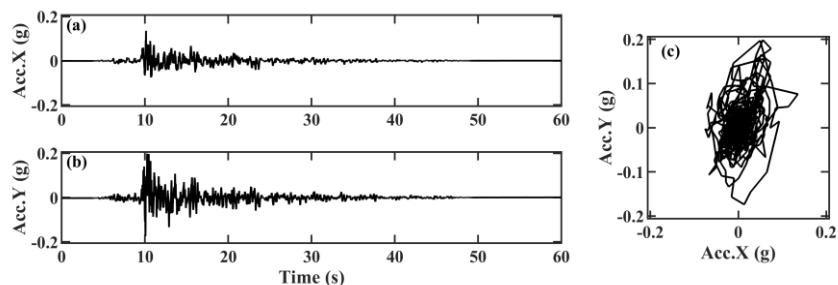
Arias intensity



Spectral demand over all horizontal directions

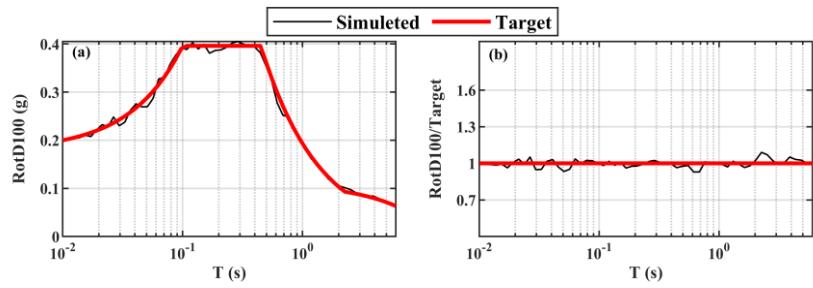


Acceleration time history

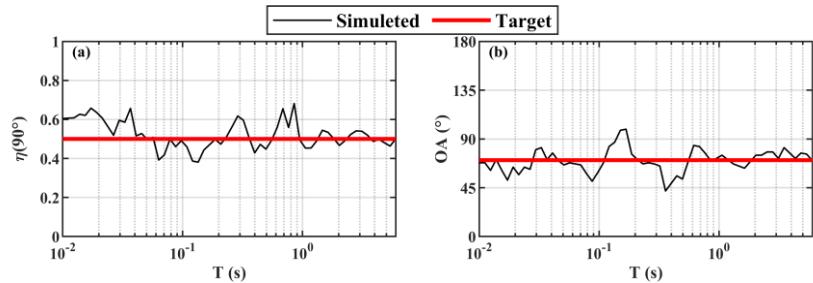


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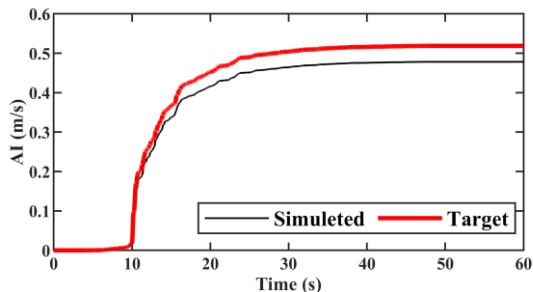
RotD100 response spectrum



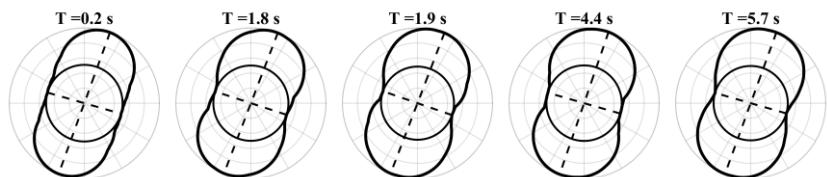
Directionality



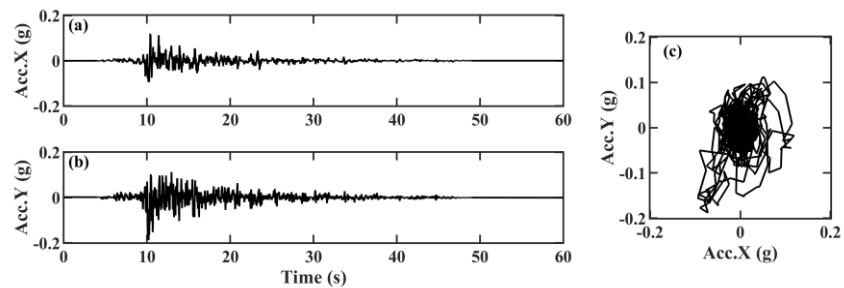
Arias intensity



Spectral demand over all horizontal directions

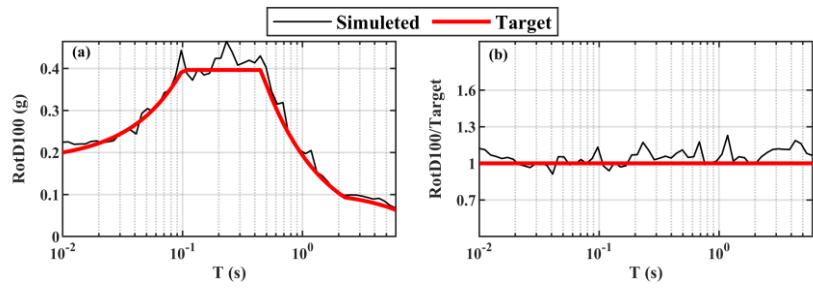


Acceleration time history

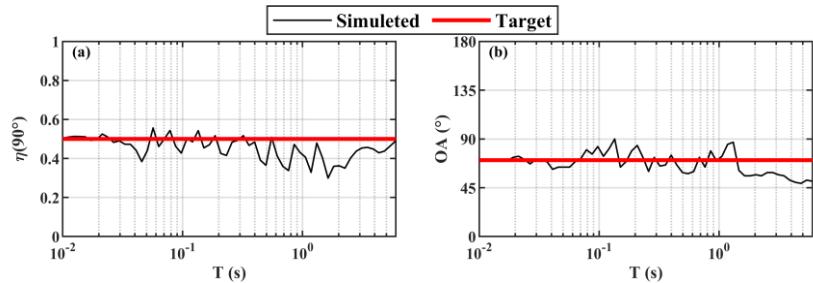


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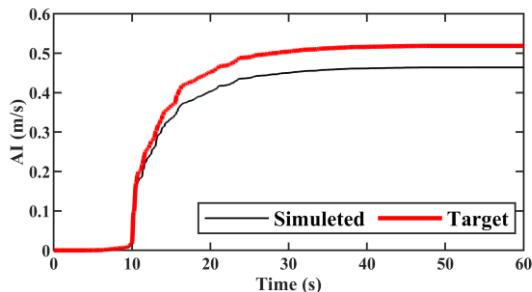
RotD100 response spectrum



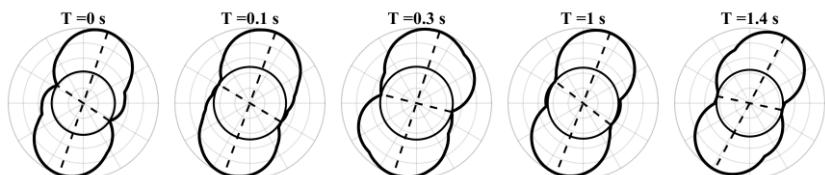
Directionality



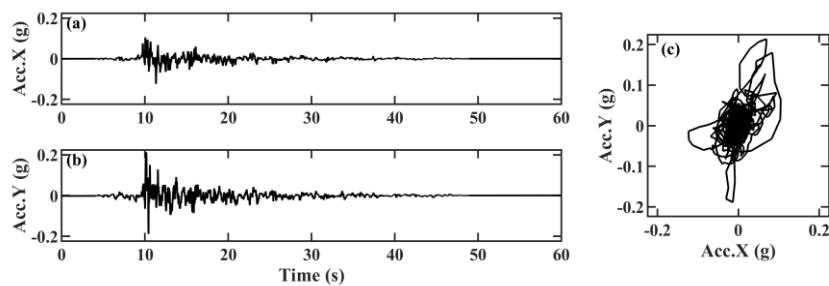
Arias intensity



Spectral demand over all horizontal directions

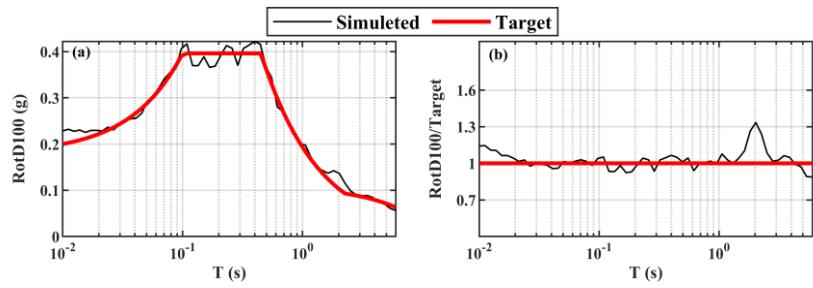


Acceleration time history

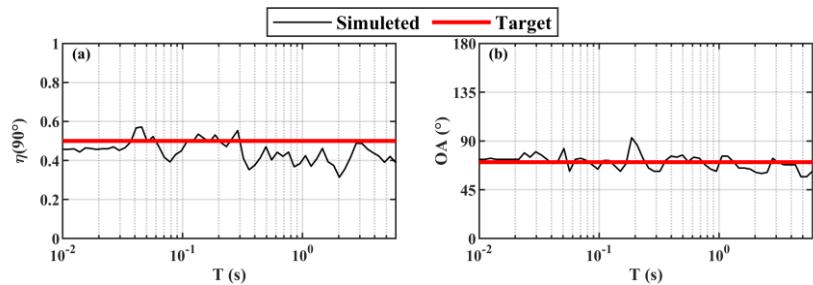


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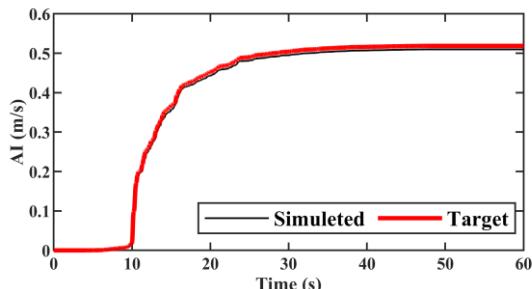
RotD100 response spectrum



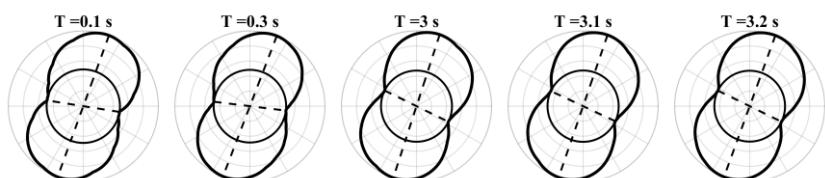
Directionality



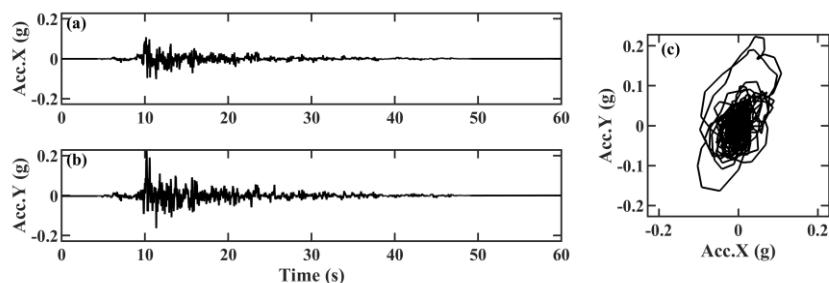
Arias intensity



Spectral demand over all horizontal directions

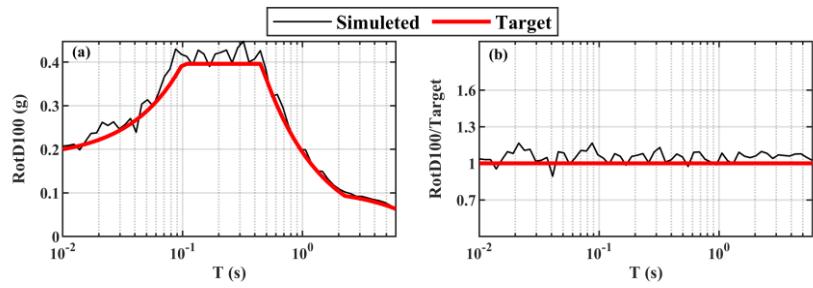


Acceleration time history

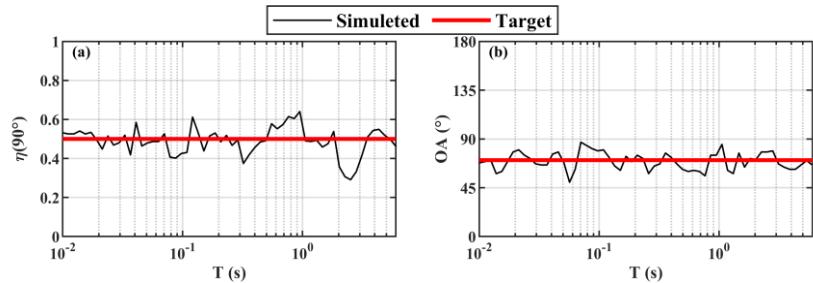


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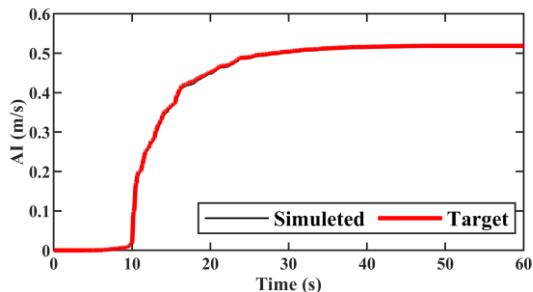
RotD100 response spectrum



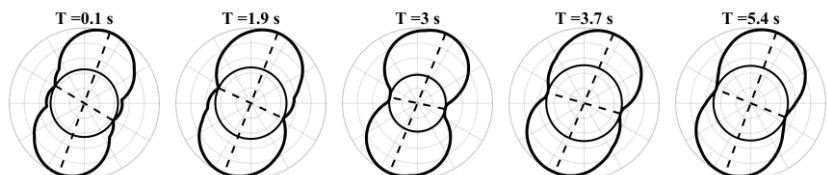
Directionality



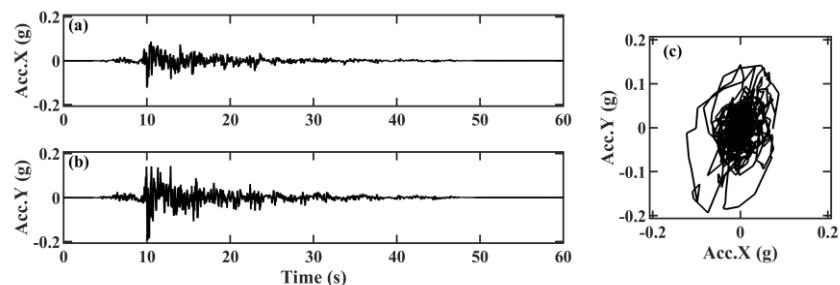
Arias intensity



Spectral demand over all horizontal directions

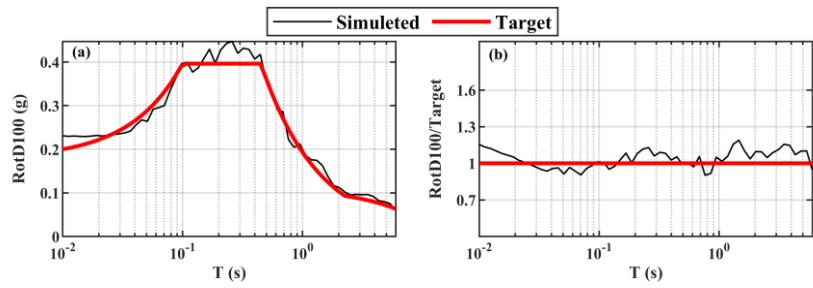


Acceleration time history

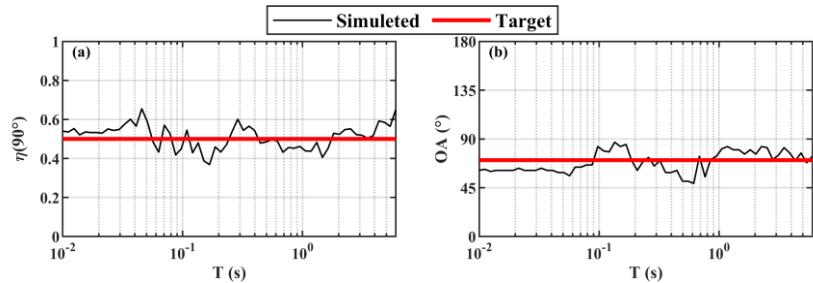


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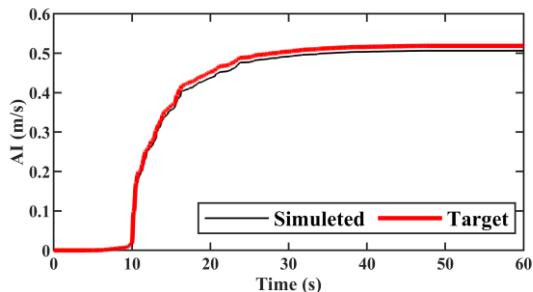
RotD100 response spectrum



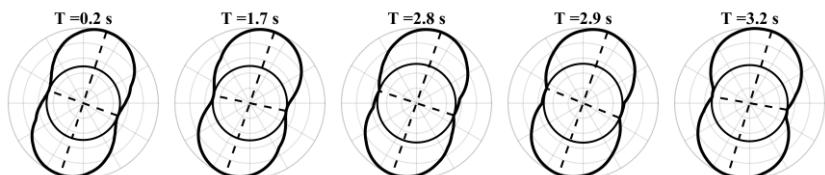
Directionality



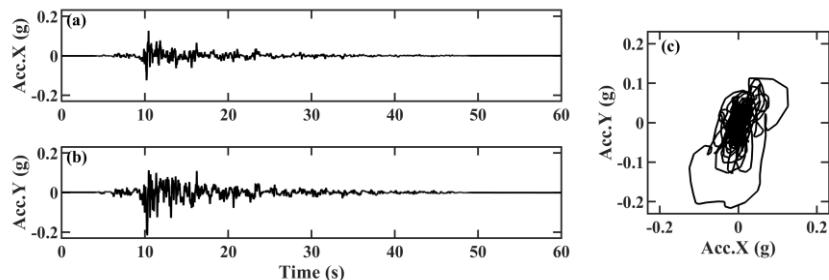
Arias intensity



Spectral demand over all horizontal directions

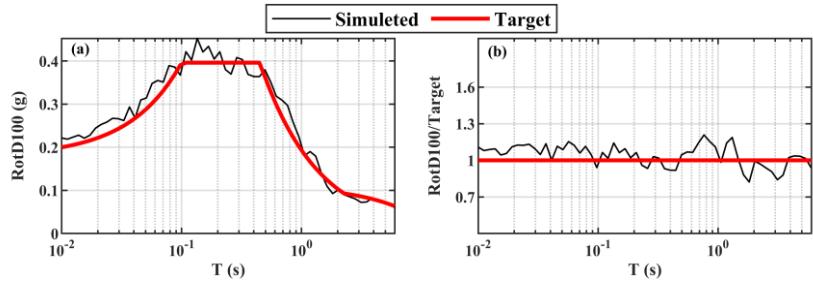


Acceleration time history

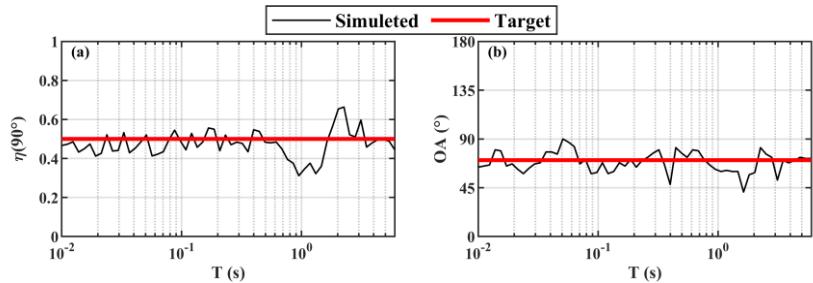


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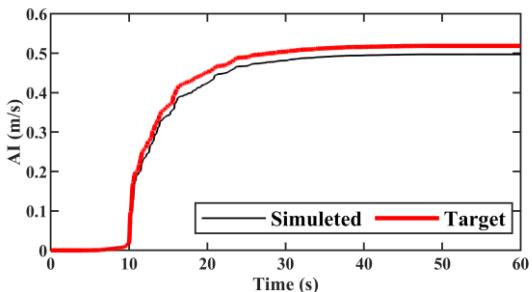
RotD100 response spectrum



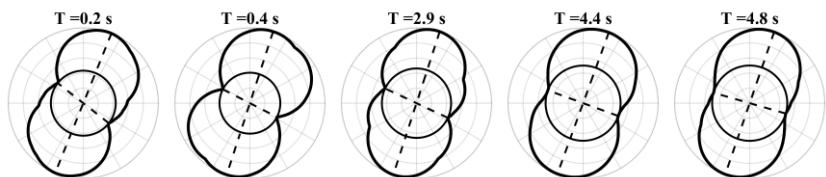
Directionality



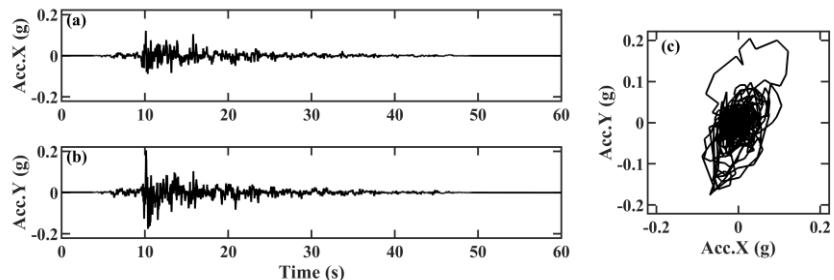
Arias intensity



Spectral demand over all horizontal directions

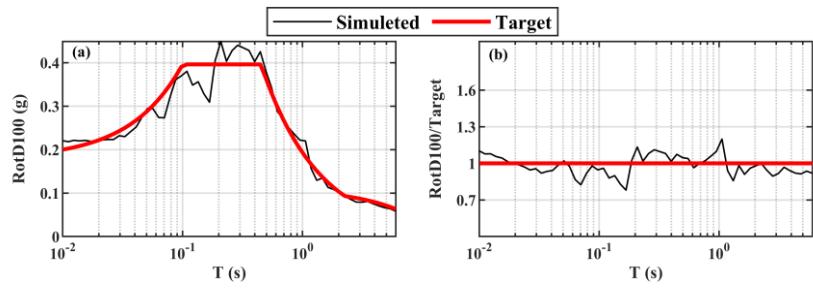


Acceleration time history

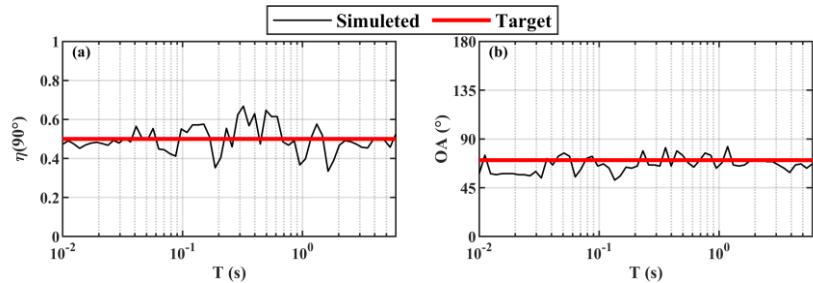


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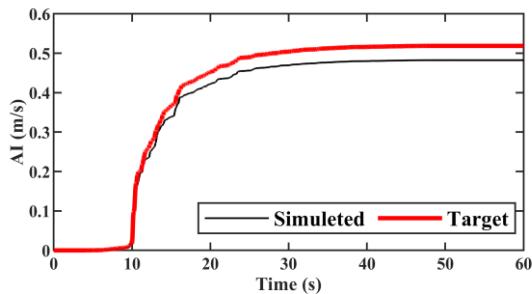
RotD100 response spectrum



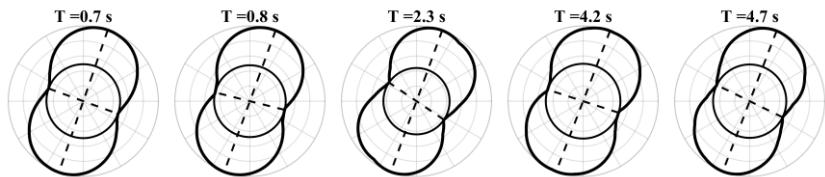
Directionality



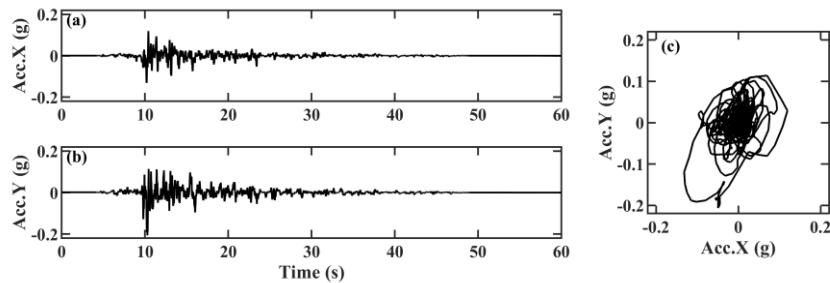
Arias intensity



Spectral demand over all horizontal directions

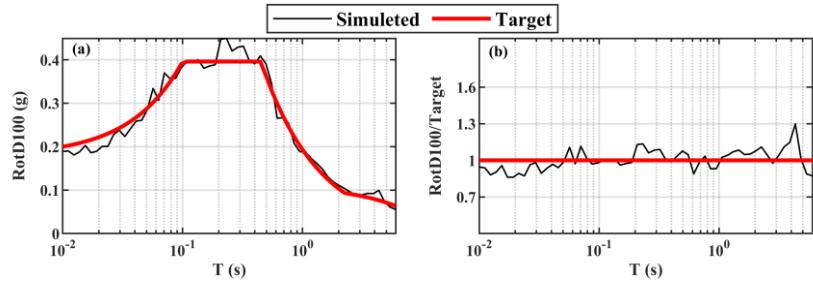


Acceleration time history

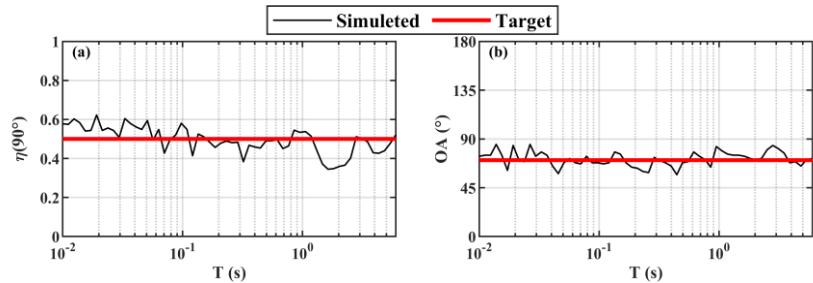


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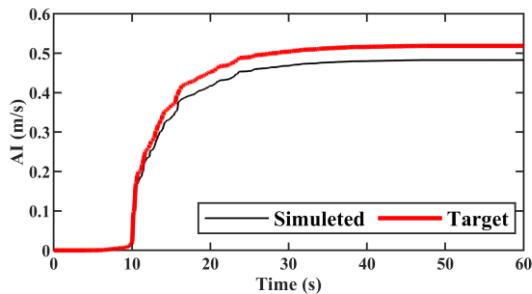
RotD100 response spectrum



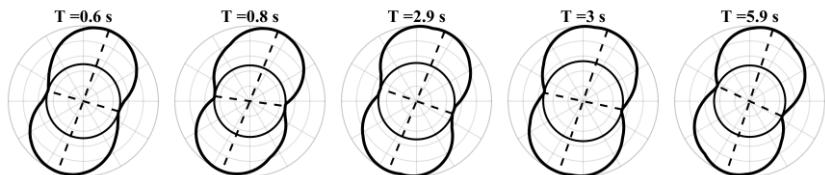
Directionality



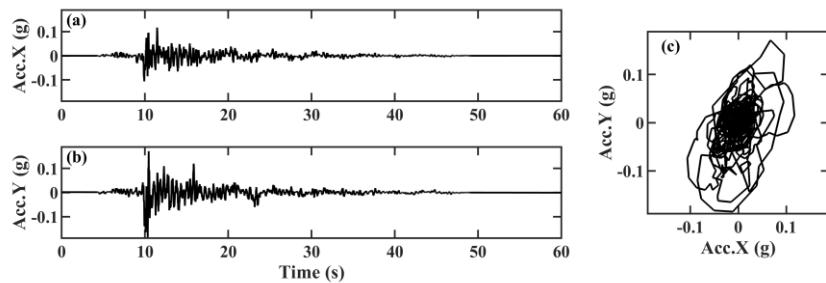
Arias intensity



Spectral demand over all horizontal directions

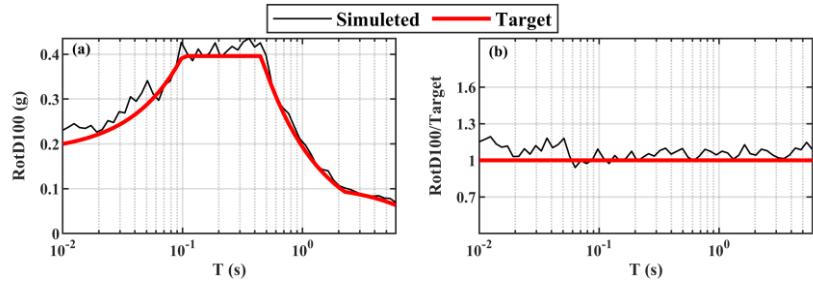


Acceleration time history

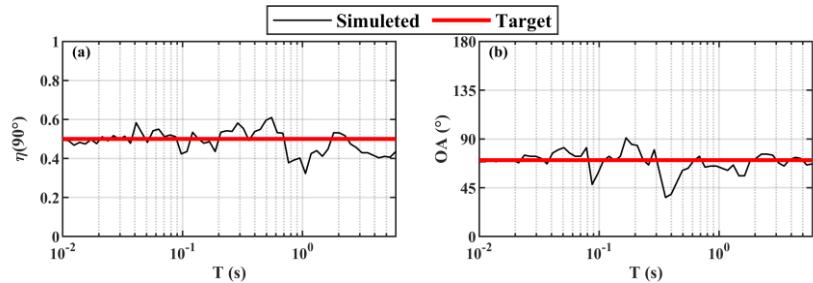


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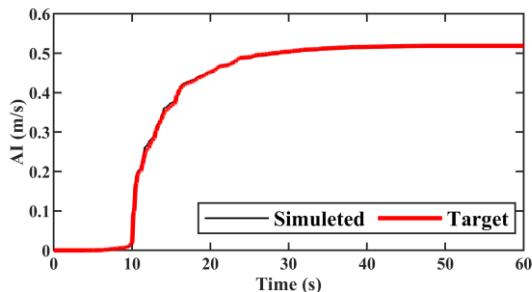
RotD100 response spectrum



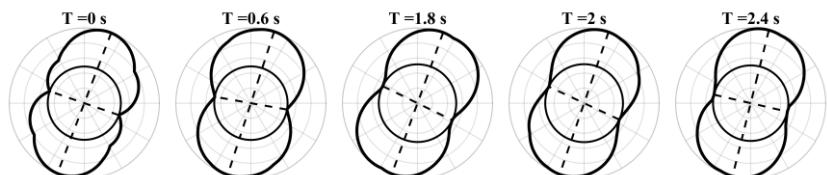
Directionality



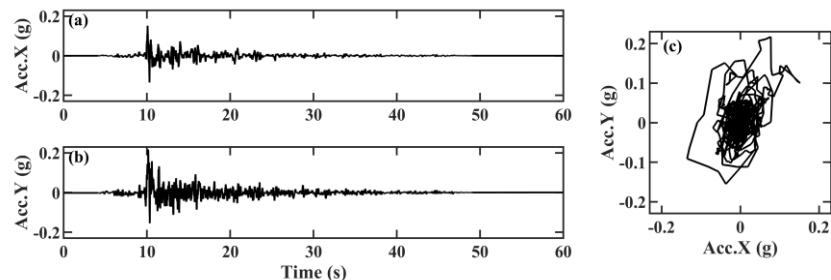
Arias intensity



Spectral demand over all horizontal directions

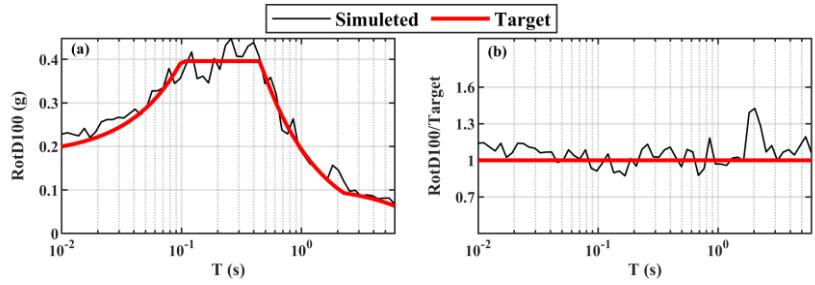


Acceleration time history

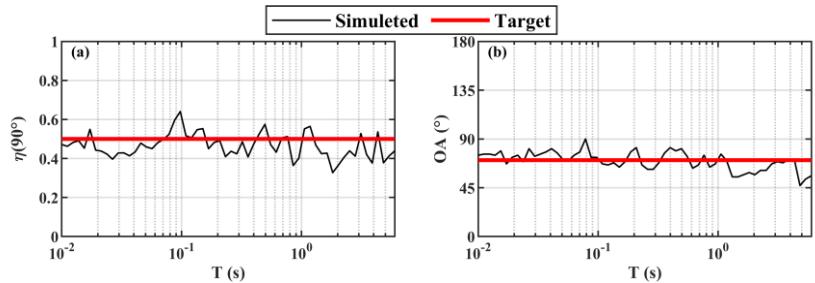


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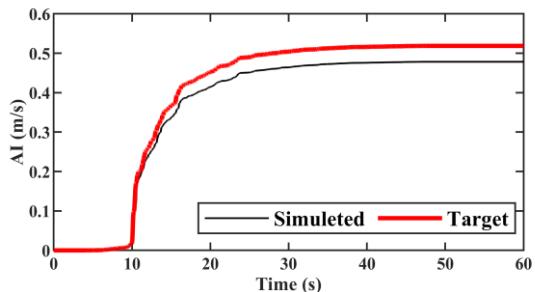
RotD100 response spectrum



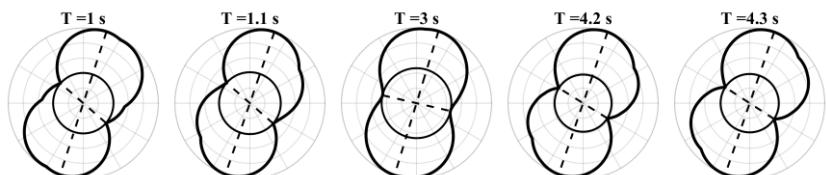
Directionality



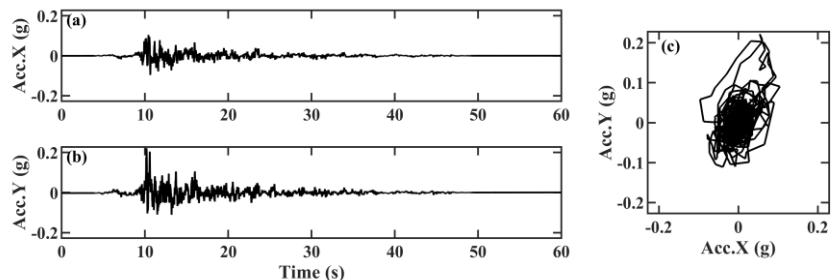
Arias intensity



Spectral demand over all horizontal directions

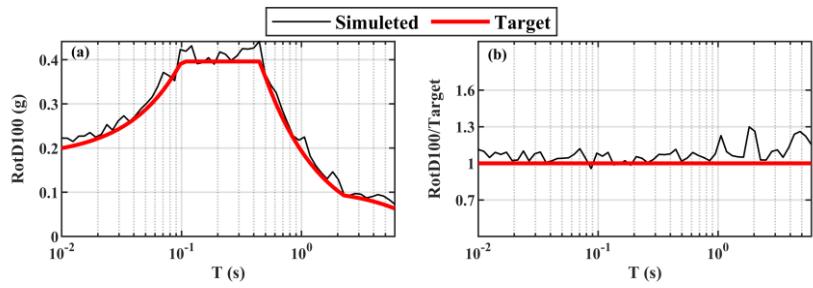


Acceleration time history

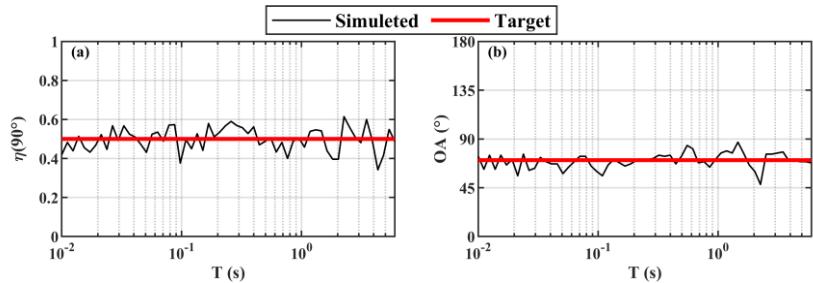


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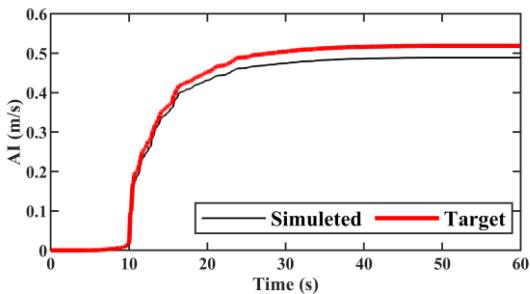
RotD100 response spectrum



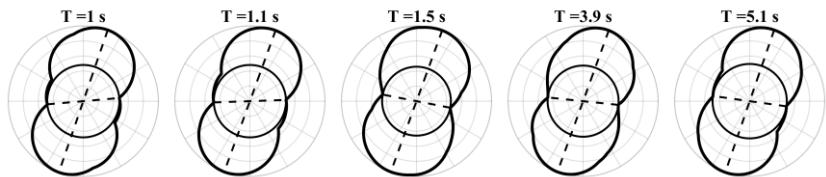
Directionality



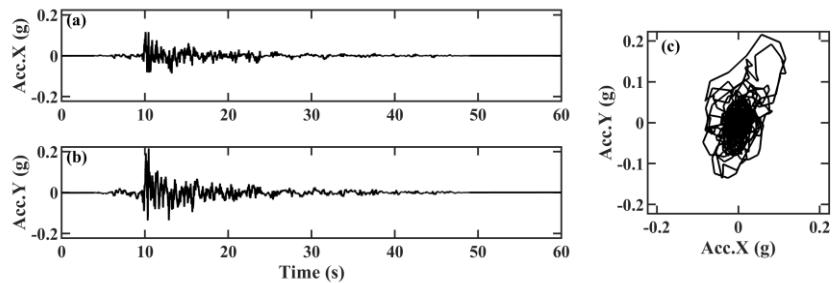
Arias intensity



Spectral demand over all horizontal directions

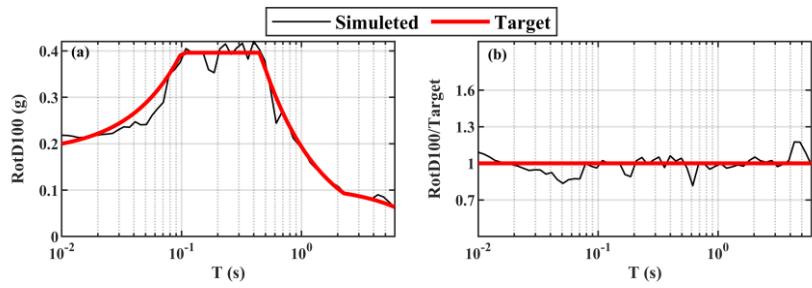


Acceleration time history

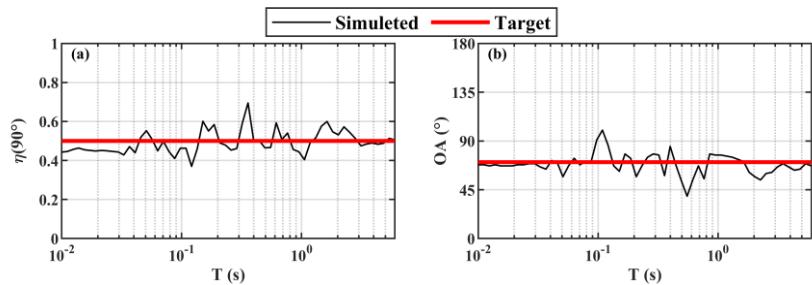


No. 16

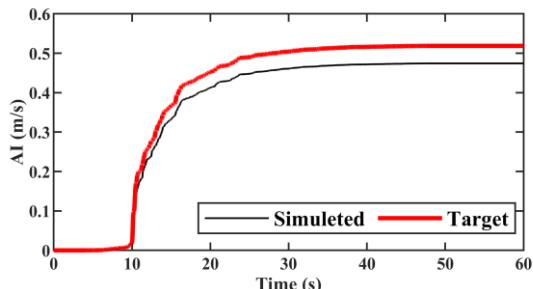
RotD100 response spectrum



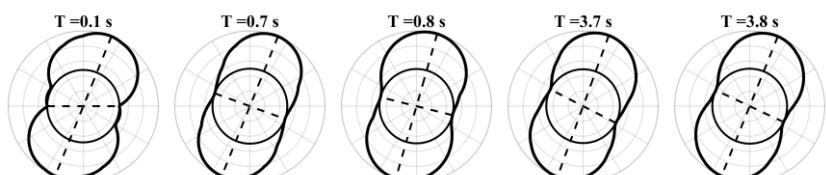
Directionality



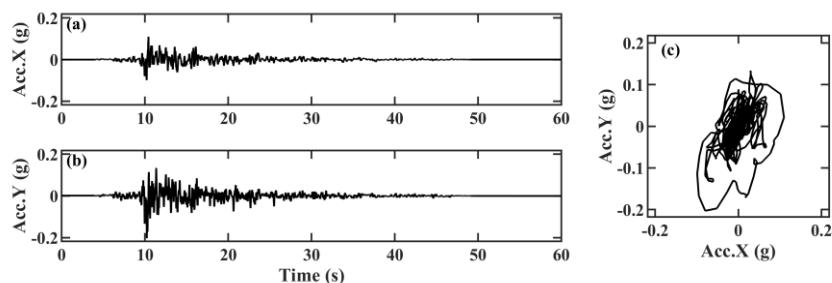
Arias intensity



Spectral demand over all horizontal directions

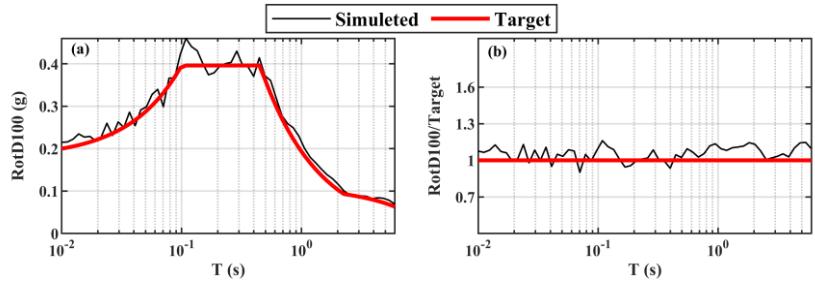


Acceleration time history

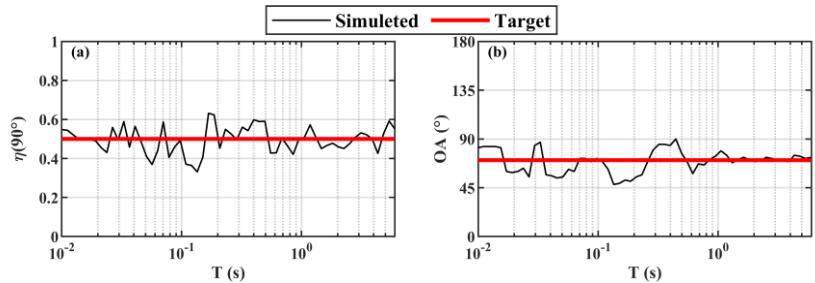


No. 17

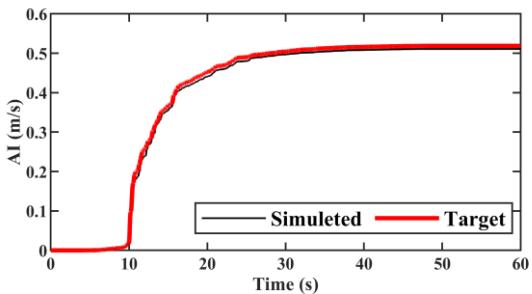
RotD100 response spectrum



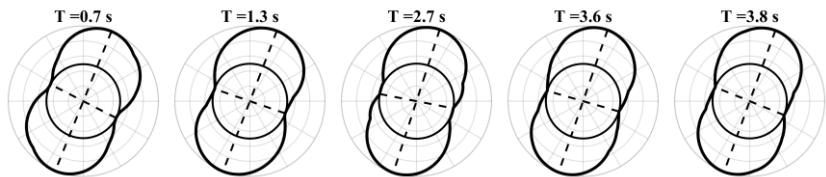
Directionality



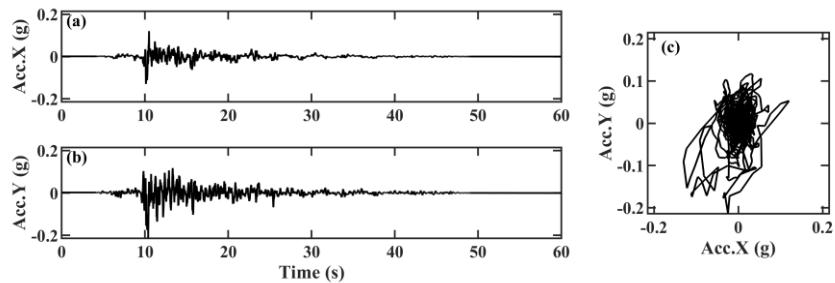
Arias intensity



Spectral demand over all horizontal directions

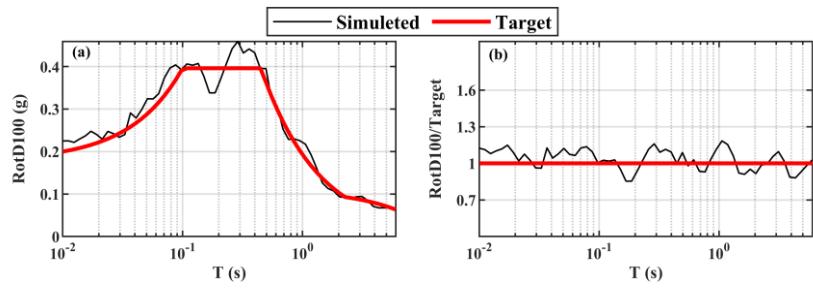


Acceleration time history

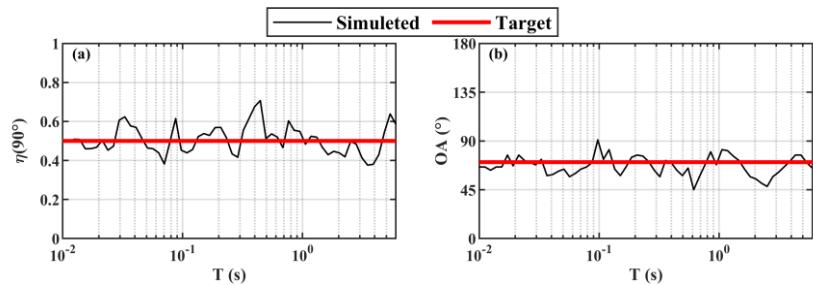


No. 18

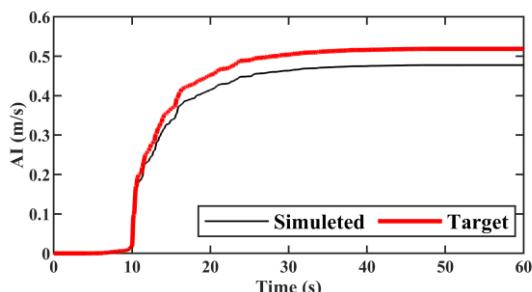
RotD100 response spectrum



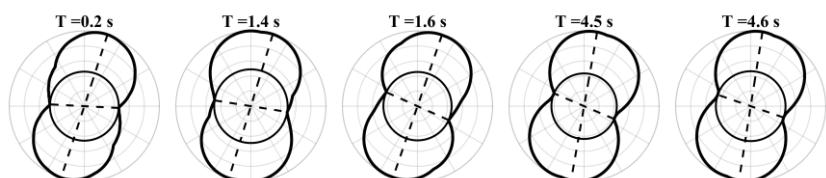
Directionality



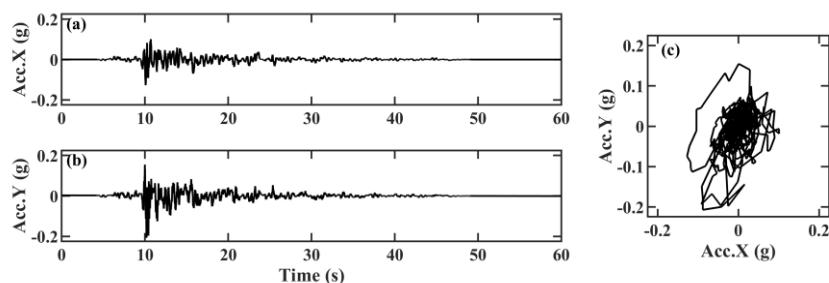
Arias intensity



Spectral demand over all horizontal directions

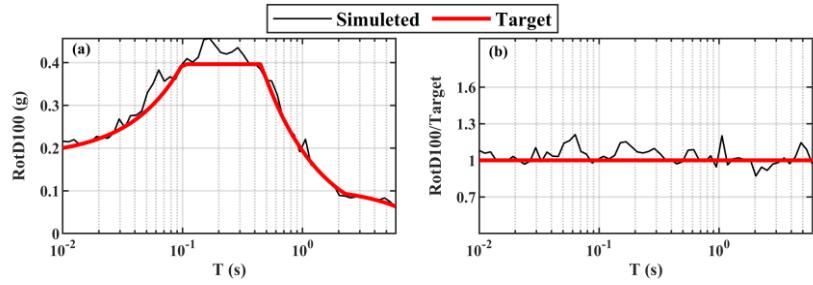


Acceleration time history

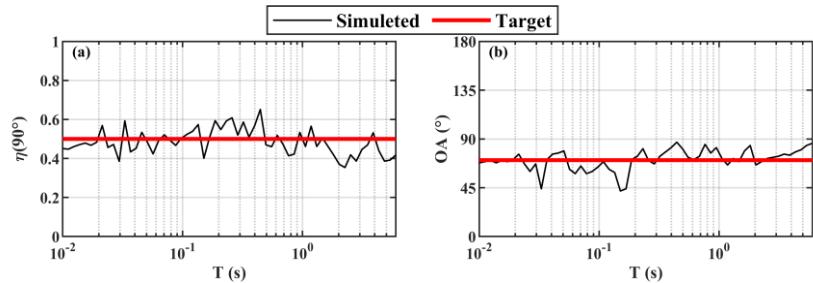


No. 19

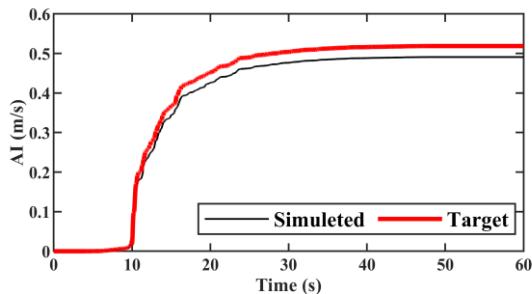
RotD100 response spectrum



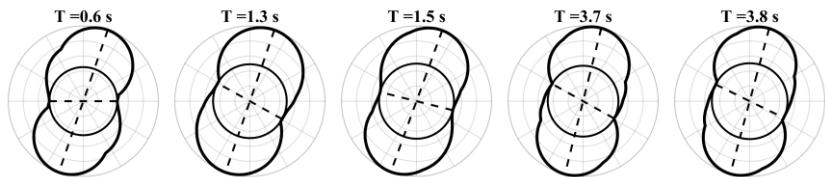
Directionality



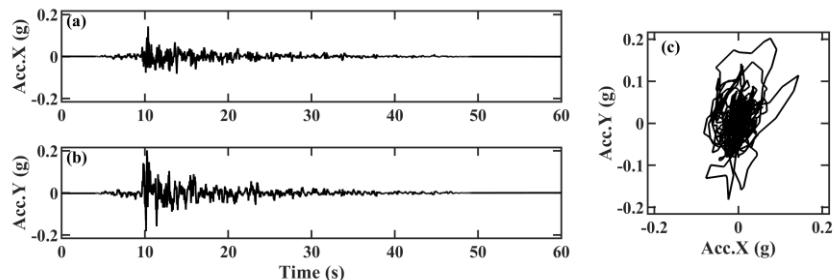
Arias intensity



Spectral demand over all horizontal directions

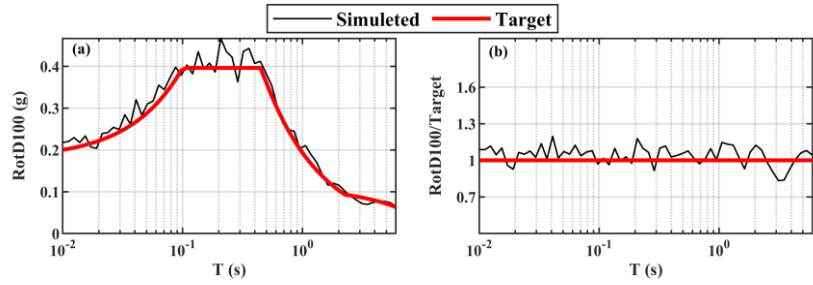


Acceleration time history

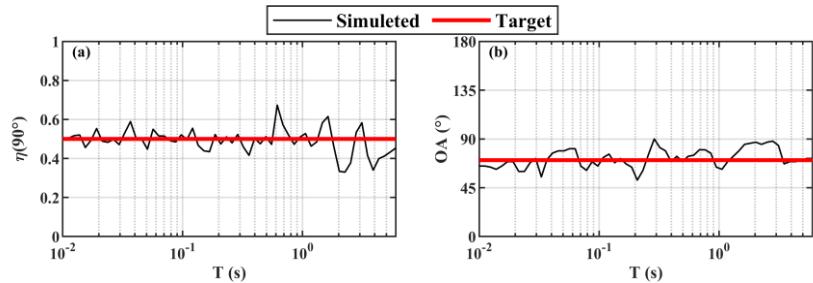


No. 20

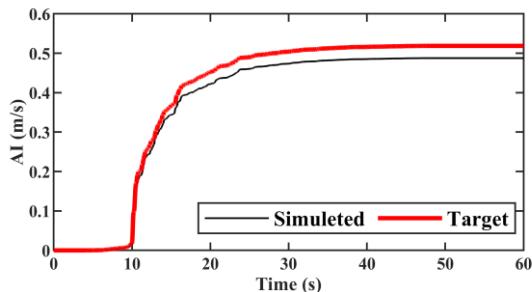
RotD100 response spectrum



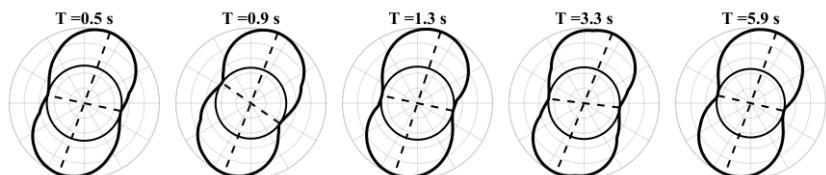
Directionality



Arias intensity



Spectral demand over all horizontal directions



Acceleration time history

