

Digital Appendix for:

An algorithm to simulate synthetic spectrum-compatible bi-directional ground motions with specific directionality

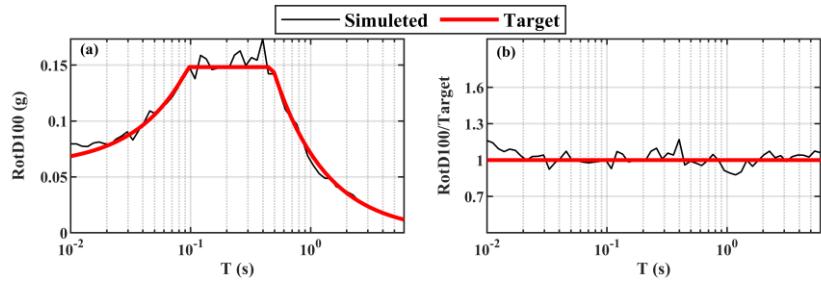
Jian Zhou, Akira Igarashi

Disaster Prevention Research Institute, Kyoto University

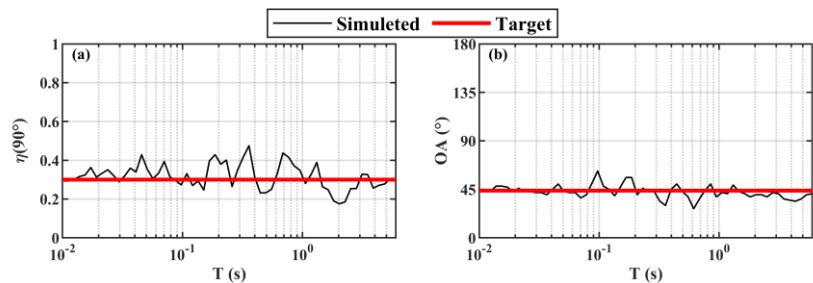
Results obtained using the ASCE RotD100 response spectrum

No. 1

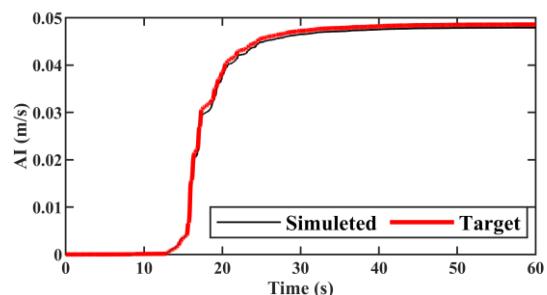
RotD100 response spectrum



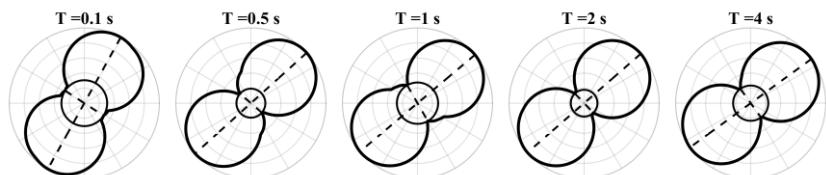
Directionality



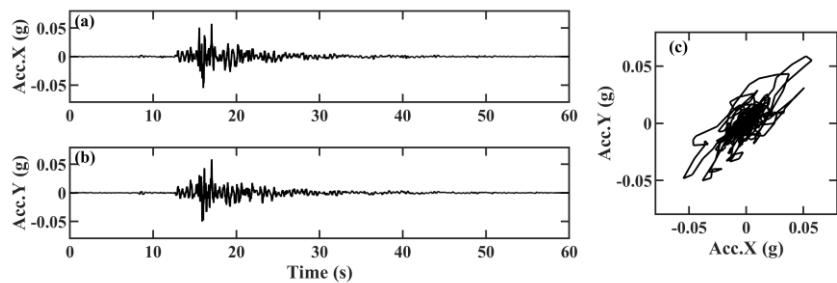
Arias intensity



Spectral demand over all horizontal directions

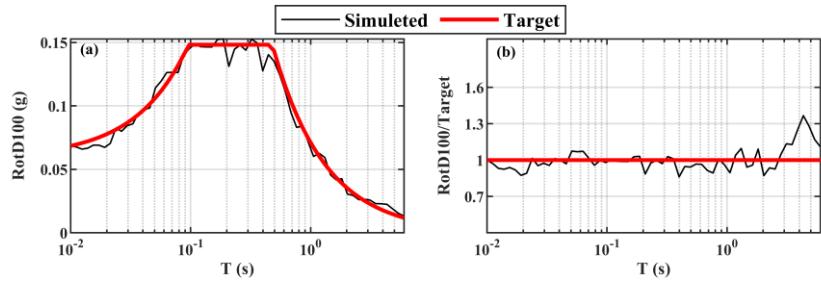


Acceleration time history

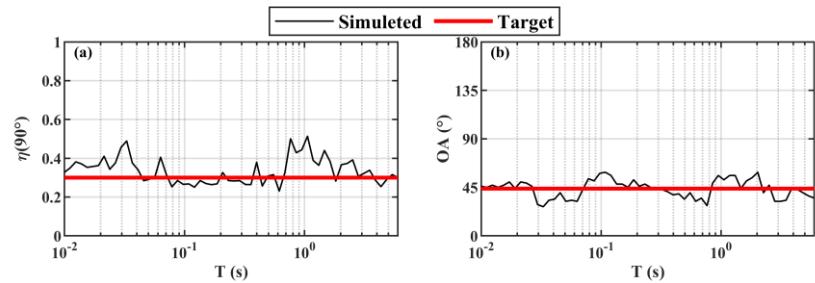


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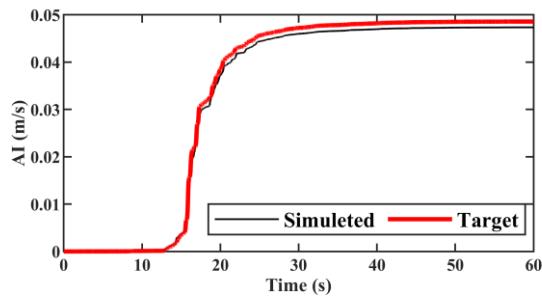
RotD100 response spectrum



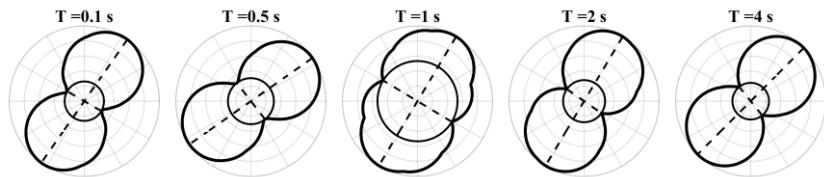
Directionality



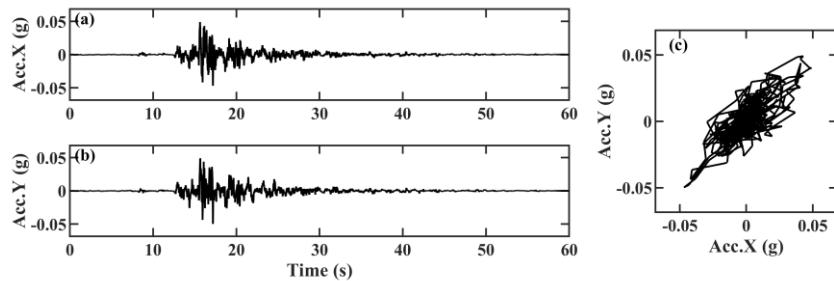
Arias intensity



Spectral demand over all horizontal directions

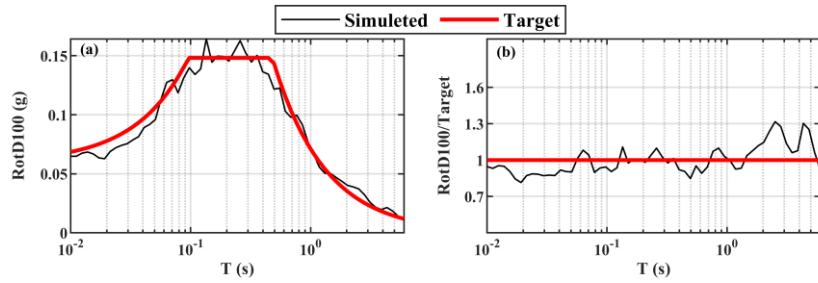


Acceleration time history

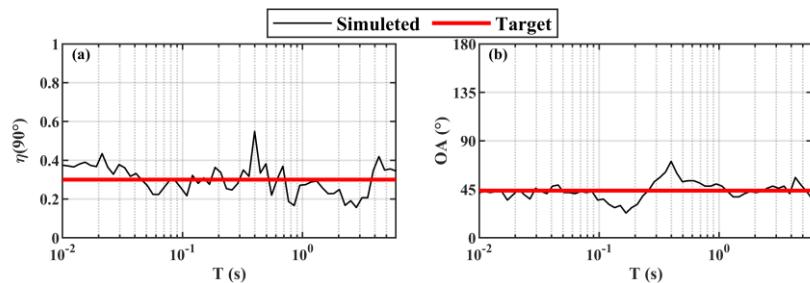


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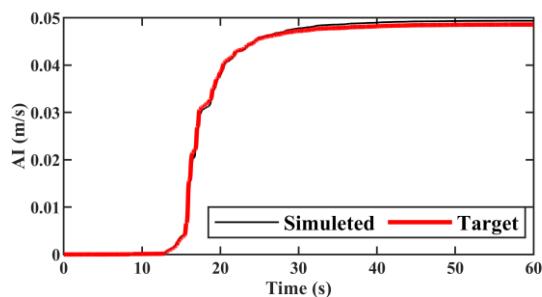
RotD100 response spectrum



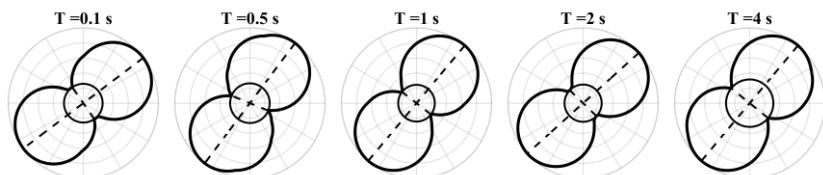
Directionality



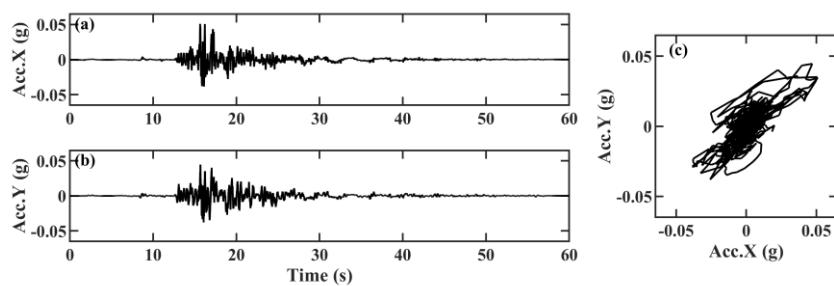
Arias intensity



Spectral demand over all horizontal directions

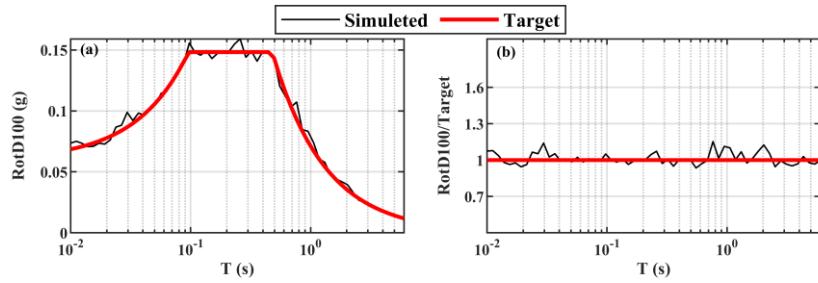


Acceleration time history

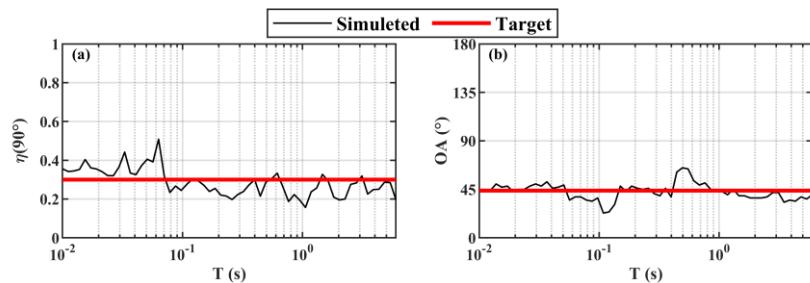


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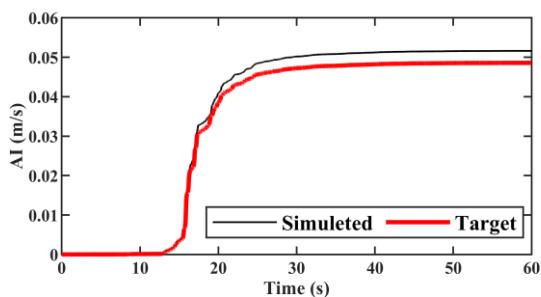
RotD100 response spectrum



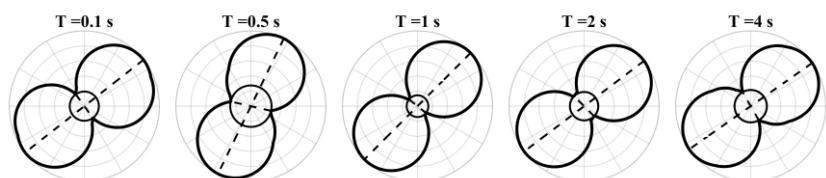
Directionality



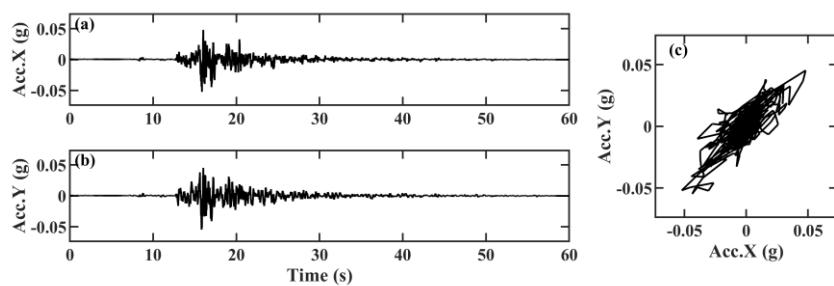
Arias intensity



Spectral demand over all horizontal directions

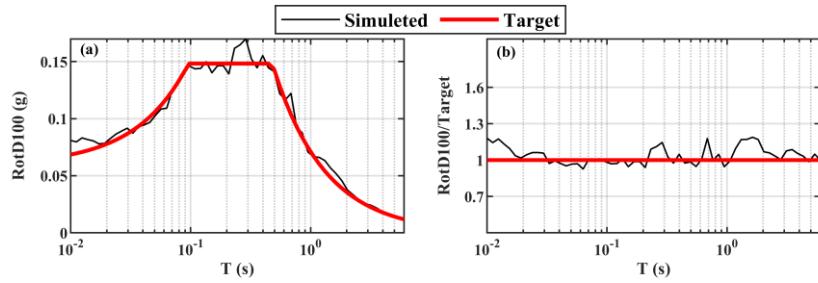


Acceleration time history

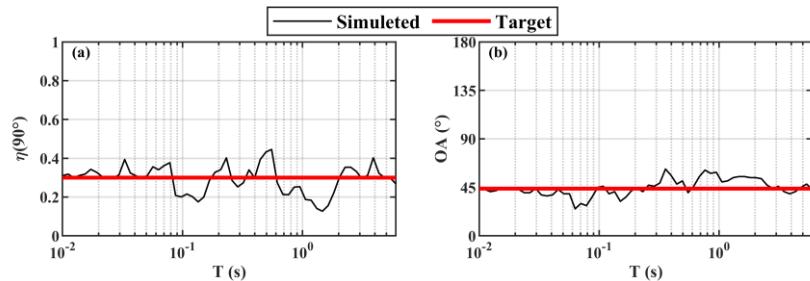


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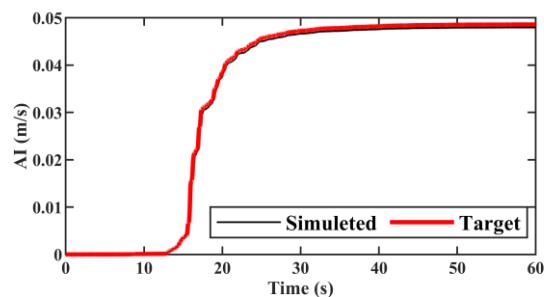
RotD100 response spectrum



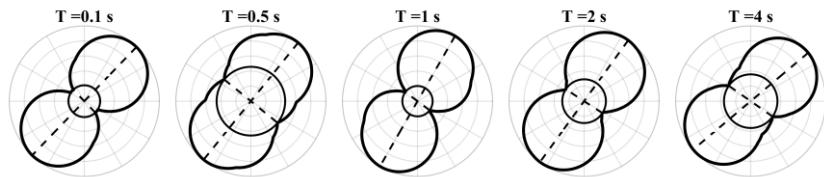
Directionality



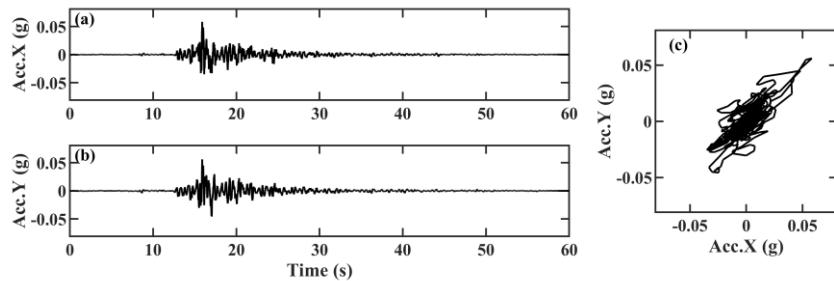
Arias intensity



Spectral demand over all horizontal directions

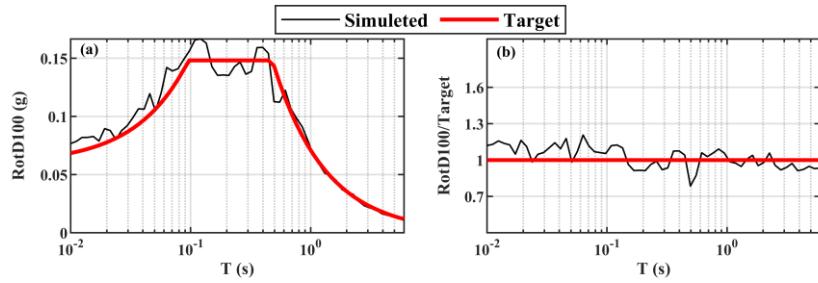


Acceleration time history

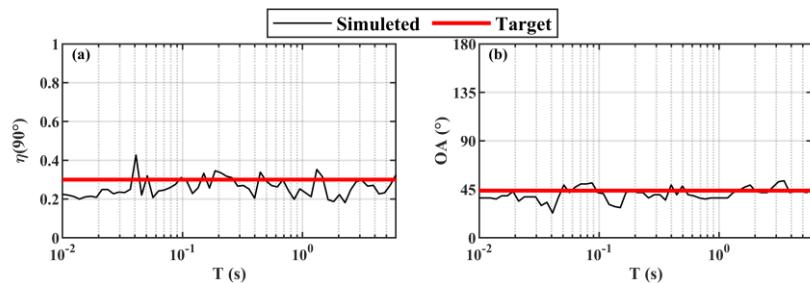


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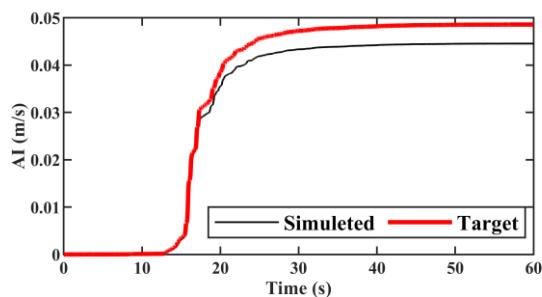
RotD100 response spectrum



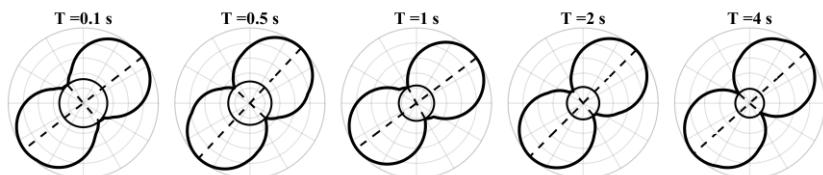
Directionality



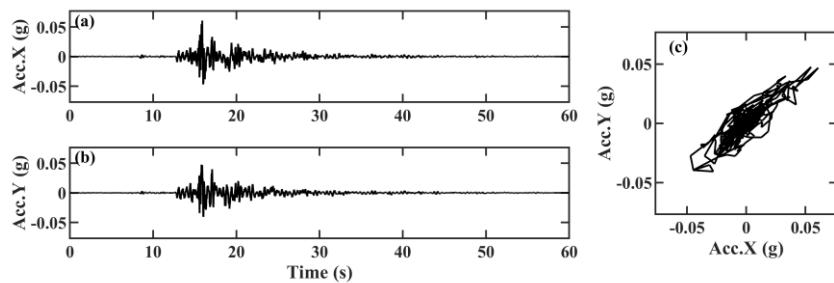
Arias intensity



Spectral demand over all horizontal directions

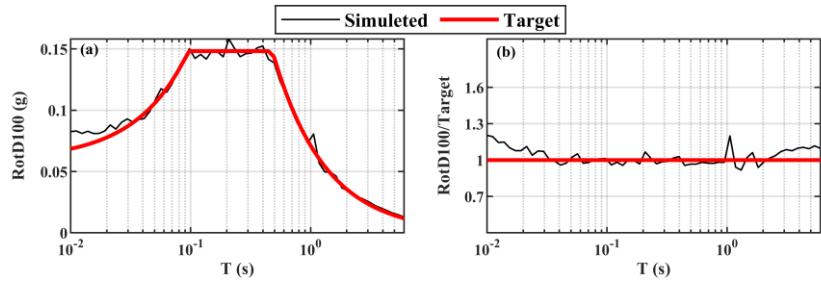


Acceleration time history

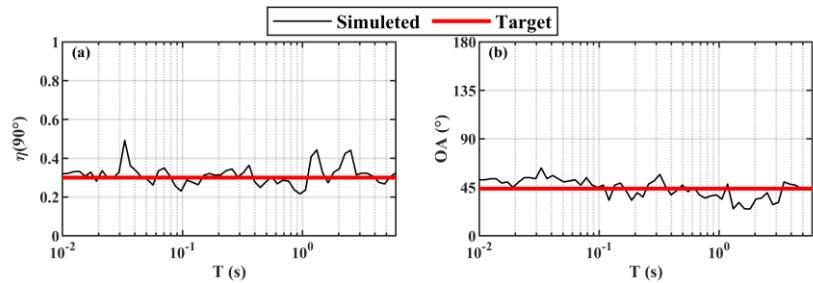


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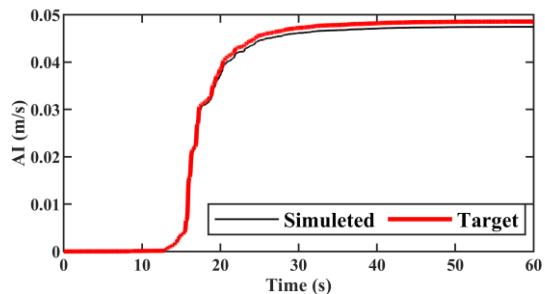
RotD100 response spectrum



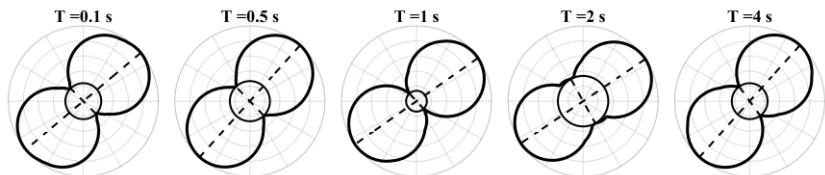
Directionality



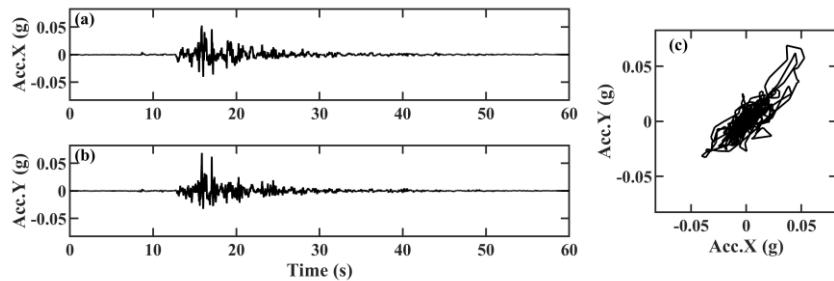
Arias intensity



Spectral demand over all horizontal directions

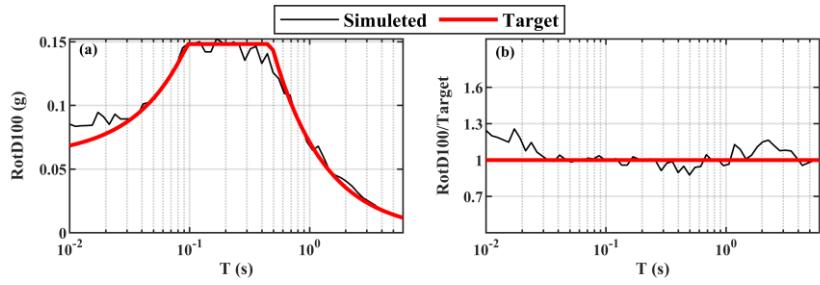


Acceleration time history

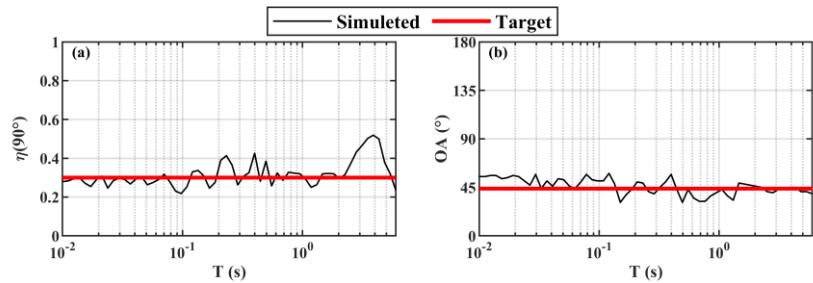


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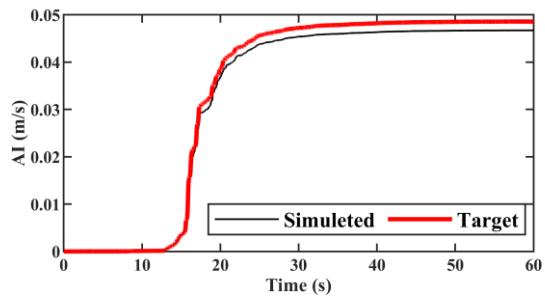
RotD100 response spectrum



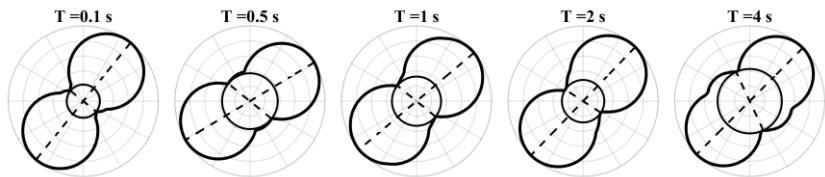
Directionality



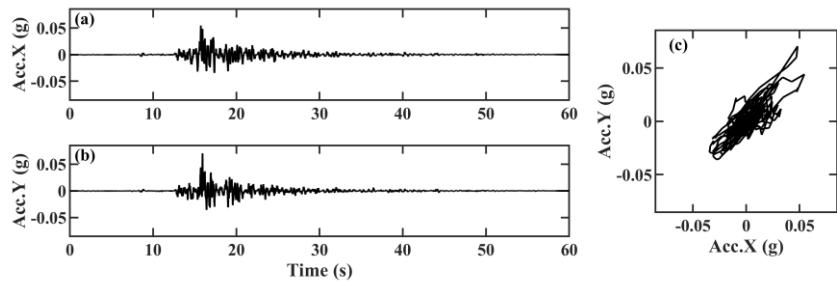
Arias intensity



Spectral demand over all horizontal directions

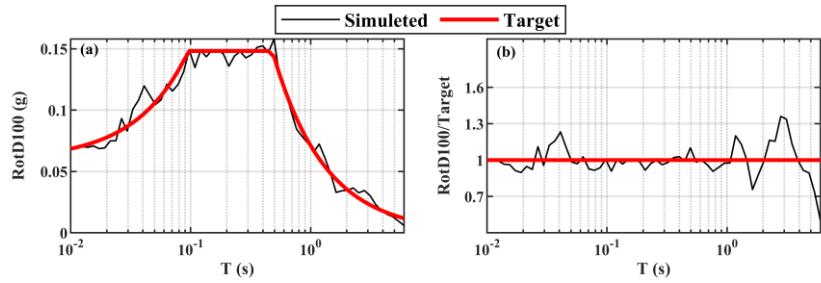


Acceleration time history

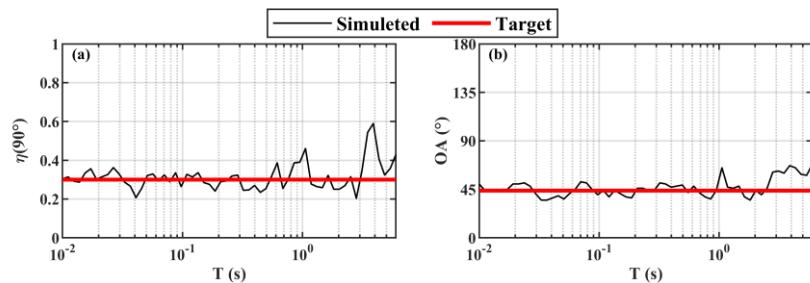


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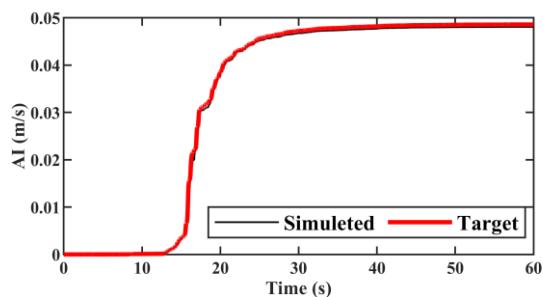
RotD100 response spectrum



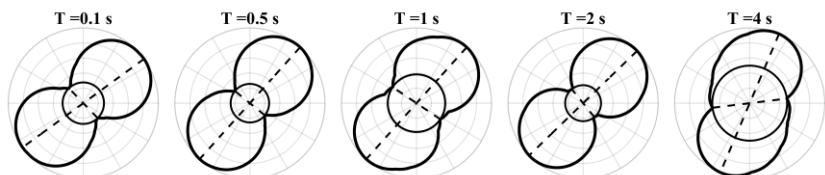
Directionality



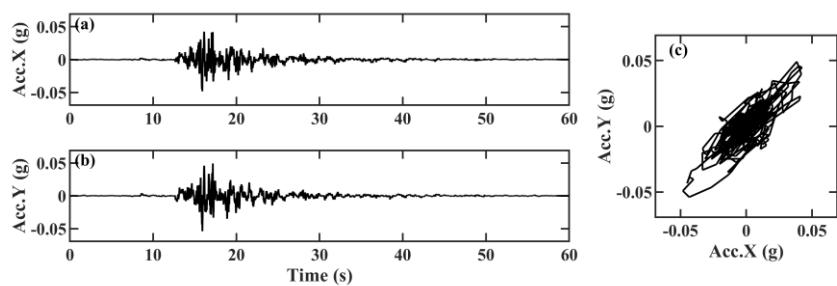
Arias intensity



Spectral demand over all horizontal directions

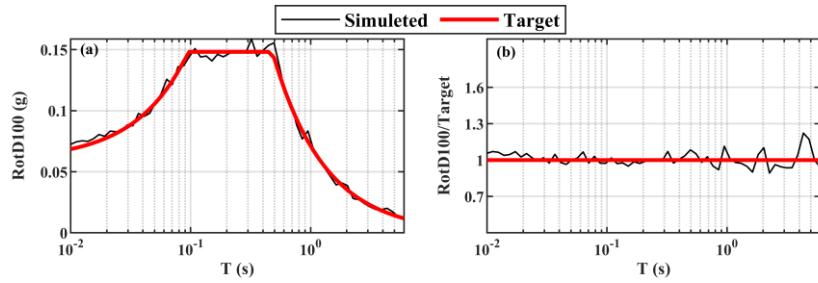


Acceleration time history

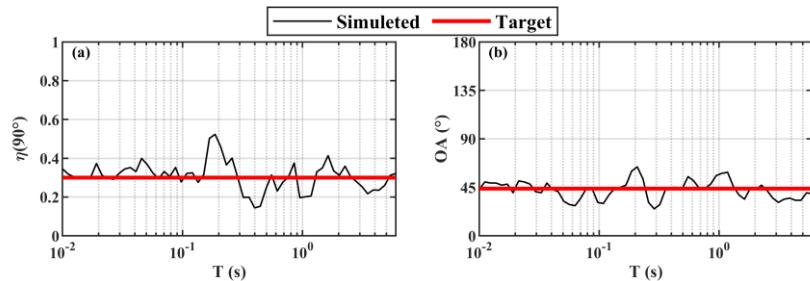


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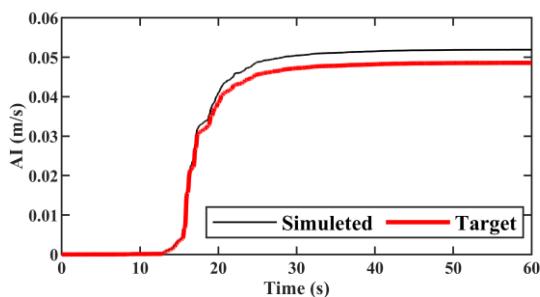
RotD100 response spectrum



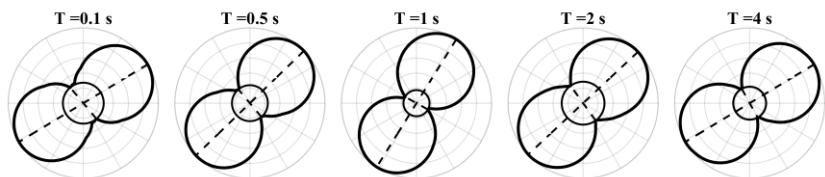
Directionality



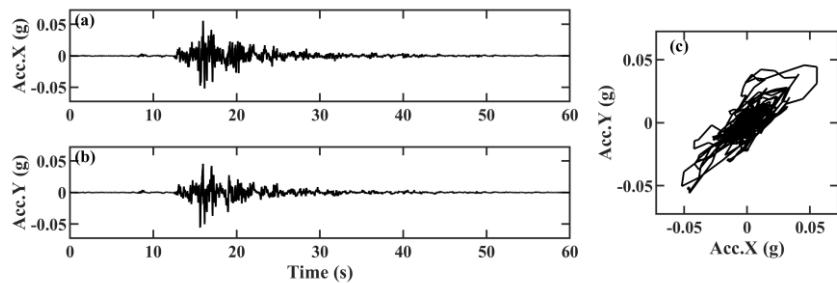
Arias intensity



Spectral demand over all horizontal directions

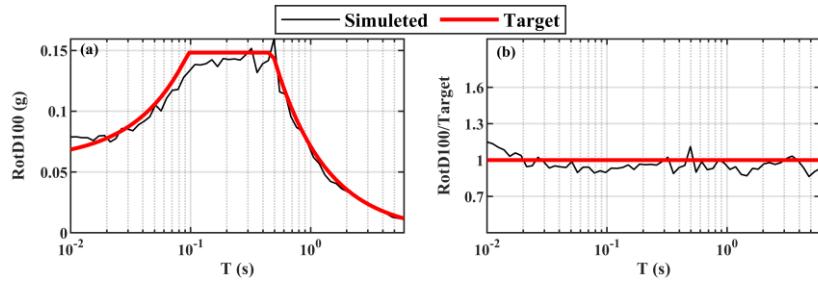


Acceleration time history

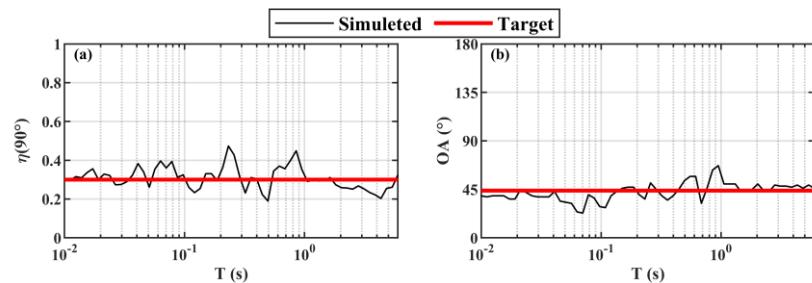


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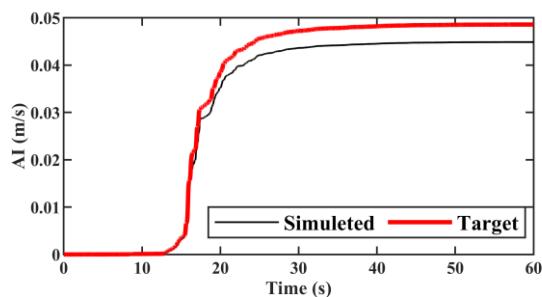
RotD100 response spectrum



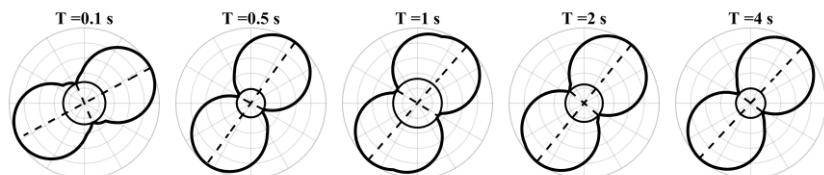
Directionality



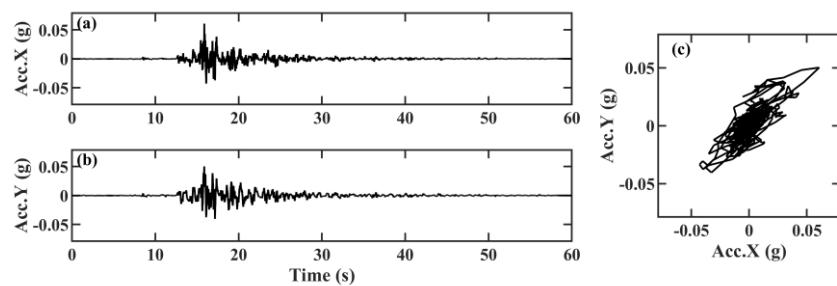
Arias intensity



Spectral demand over all horizontal directions

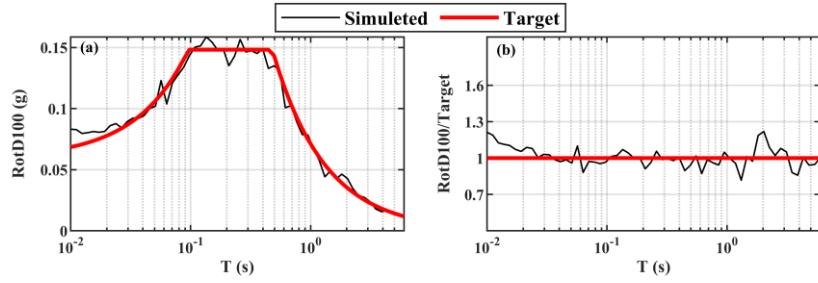


Acceleration time history

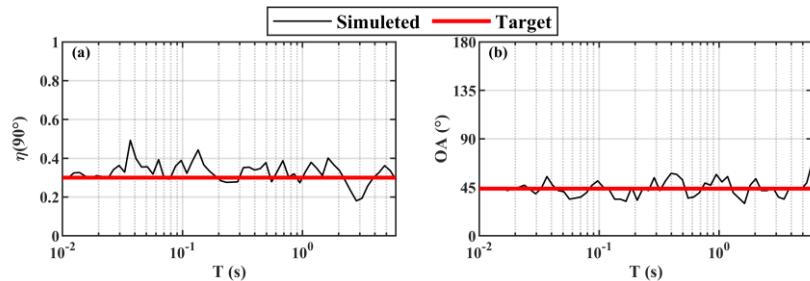


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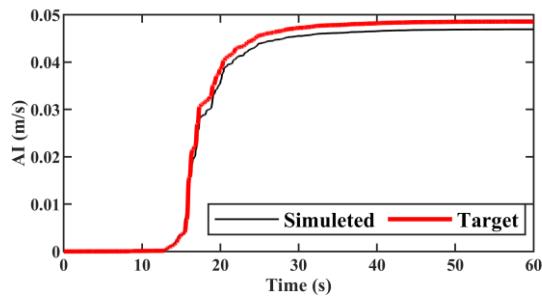
RotD100 response spectrum



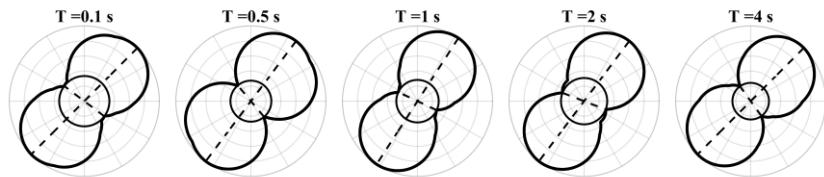
Directionality



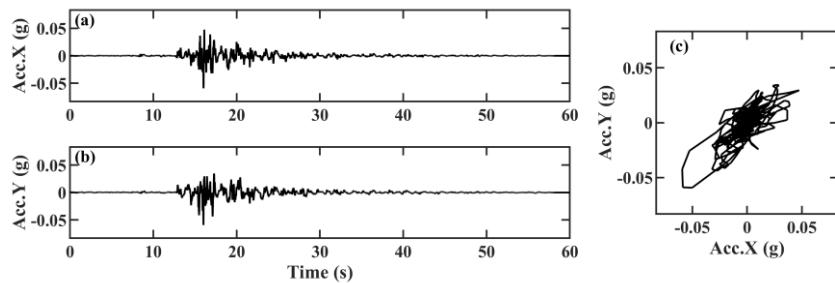
Arias intensity



Spectral demand over all horizontal directions

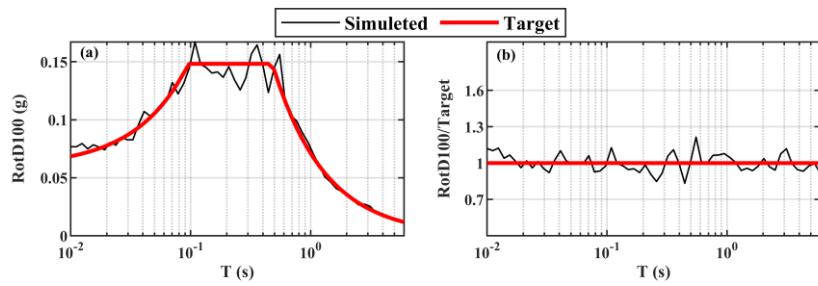


Acceleration time history

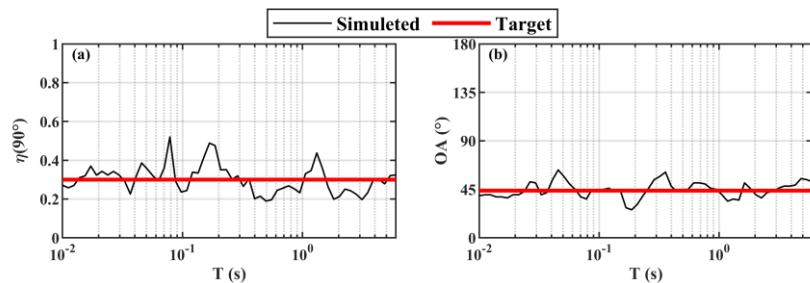


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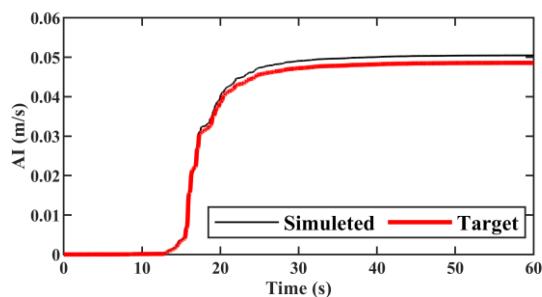
RotD100 response spectrum



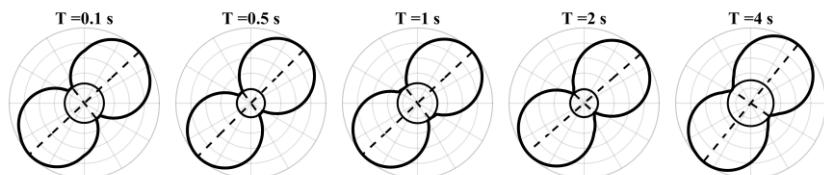
Directionality



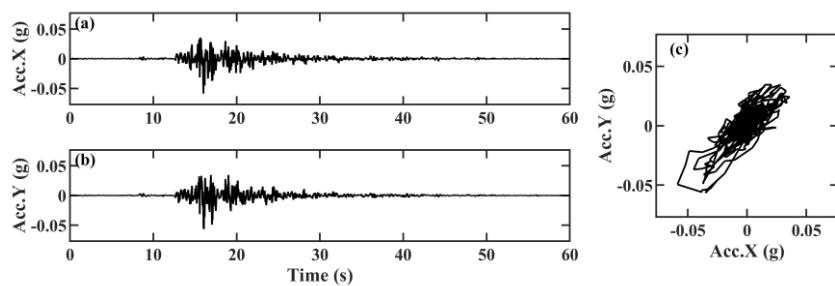
Arias intensity



Spectral demand over all horizontal directions

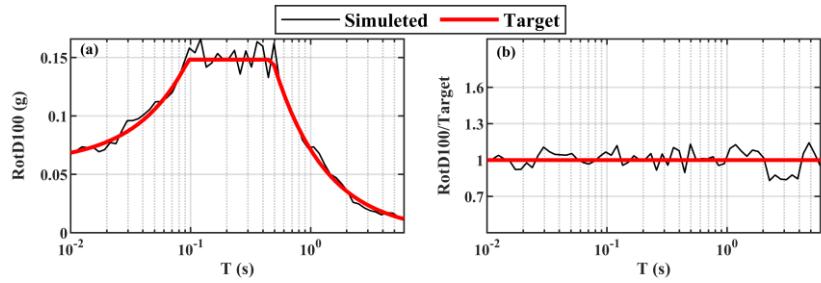


Acceleration time history

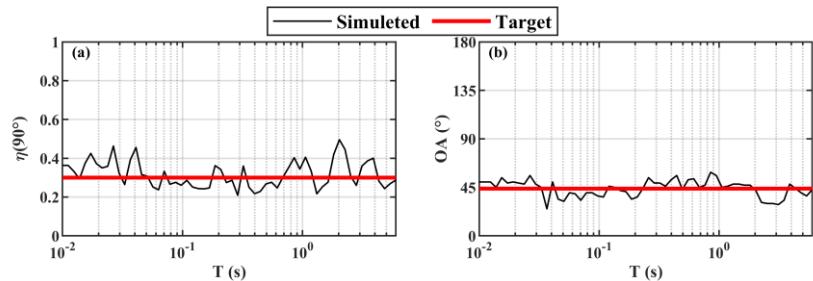


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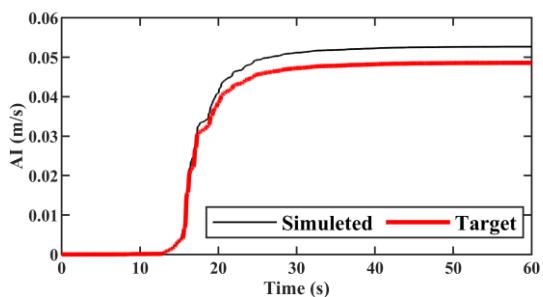
RotD100 response spectrum



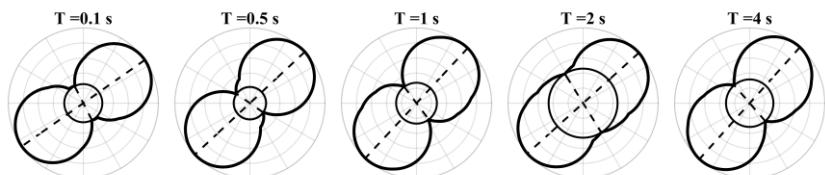
Directionality



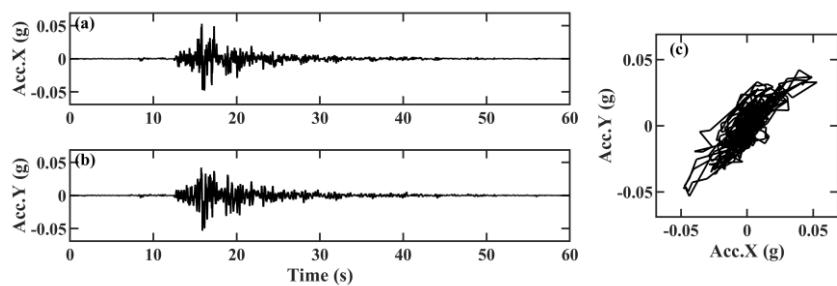
Arias intensity



Spectral demand over all horizontal directions

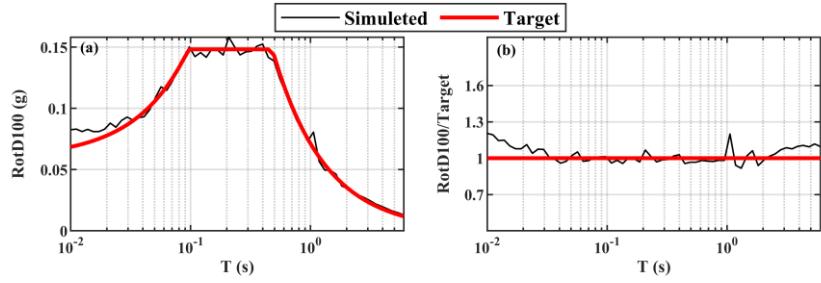


Acceleration time history

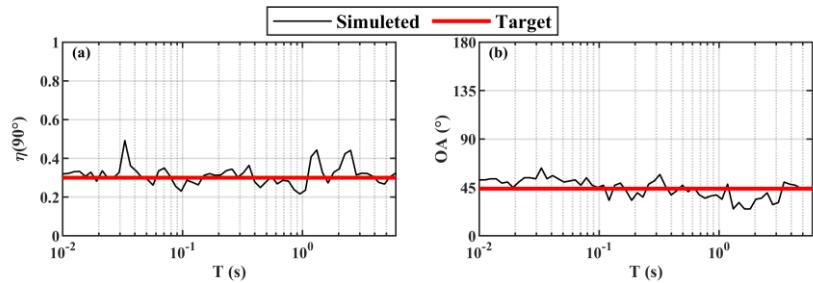


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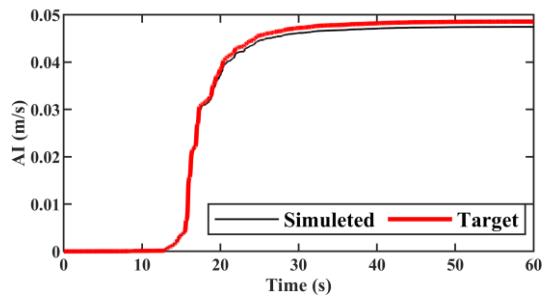
RotD100 response spectrum



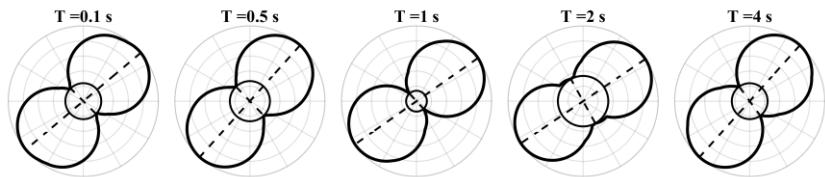
Directionality



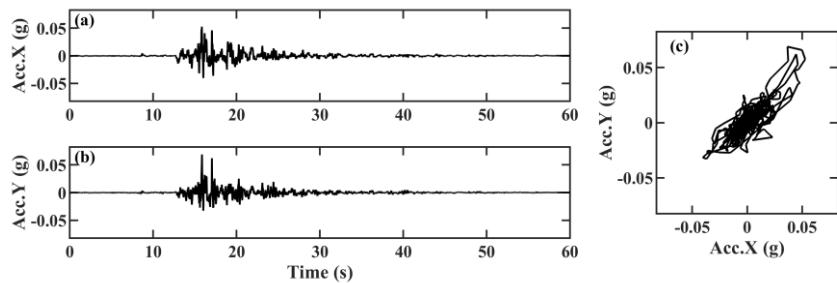
Arias intensity



Spectral demand over all horizontal directions

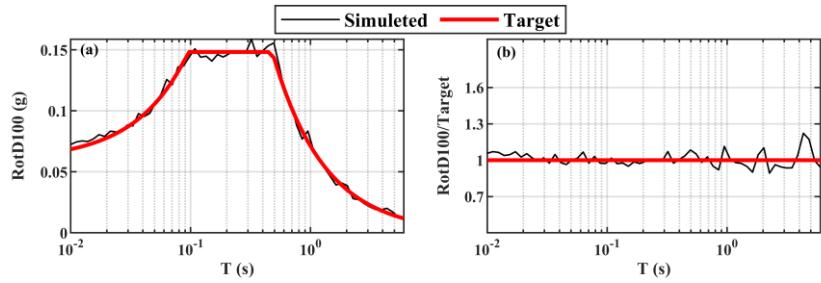


Acceleration time history

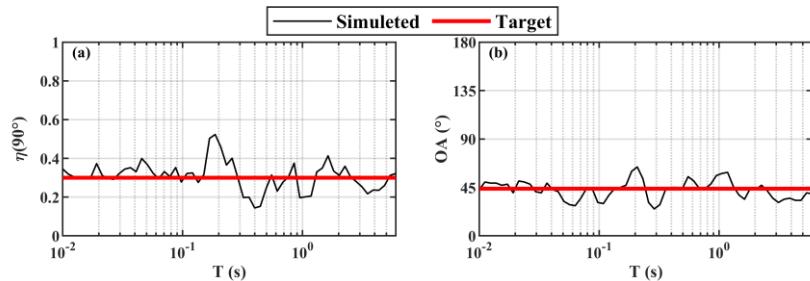


No. 16

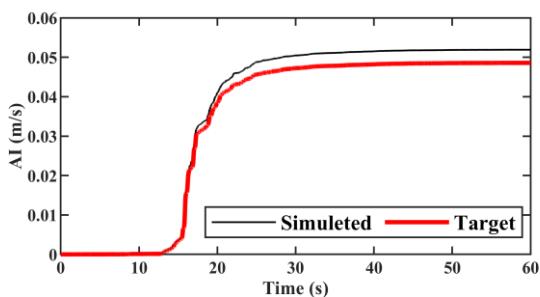
RotD100 response spectrum



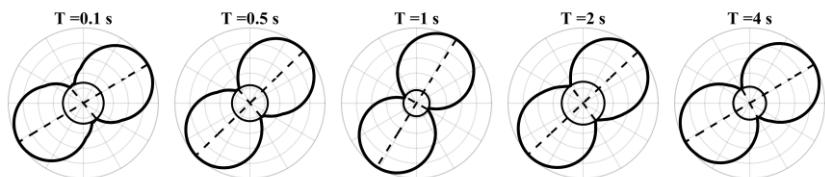
Directionality



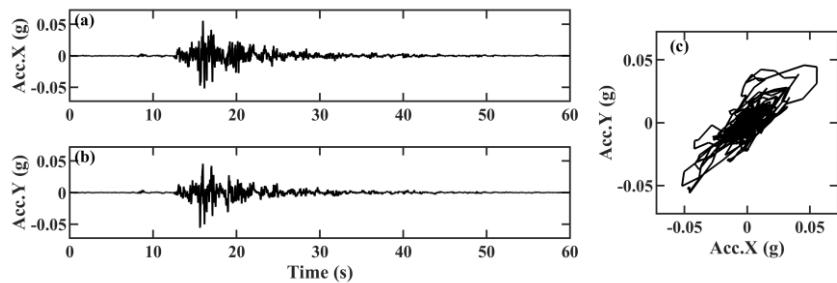
Arias intensity



Spectral demand over all horizontal directions

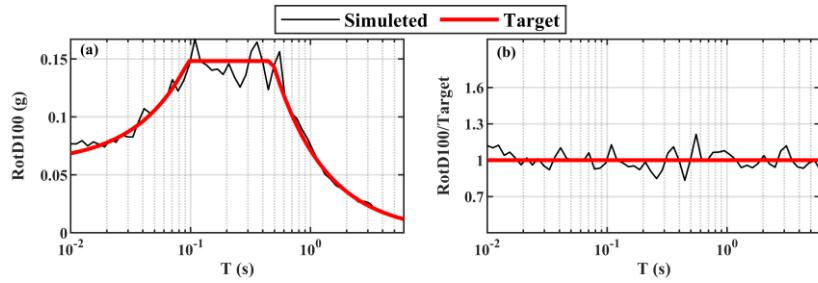


Acceleration time history

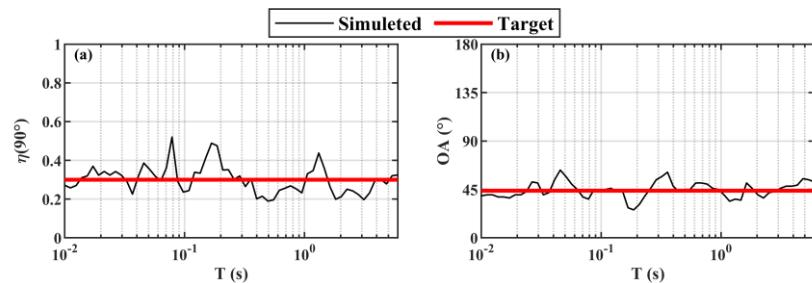


No. 17

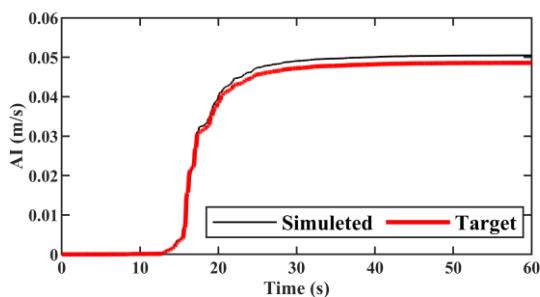
RotD100 response spectrum



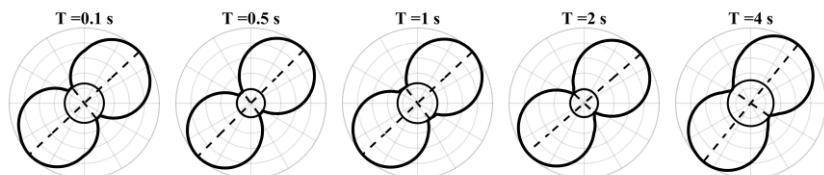
Directionality



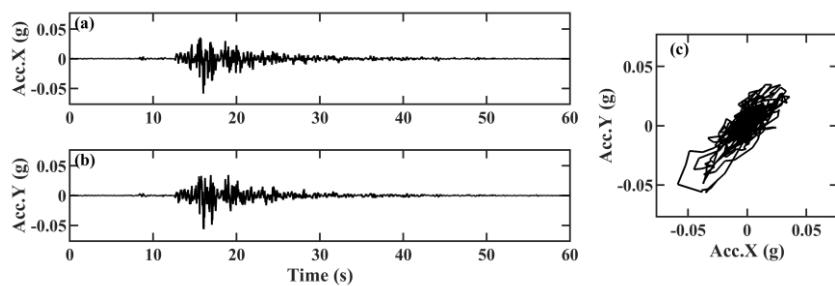
Arias intensity



Spectral demand over all horizontal directions

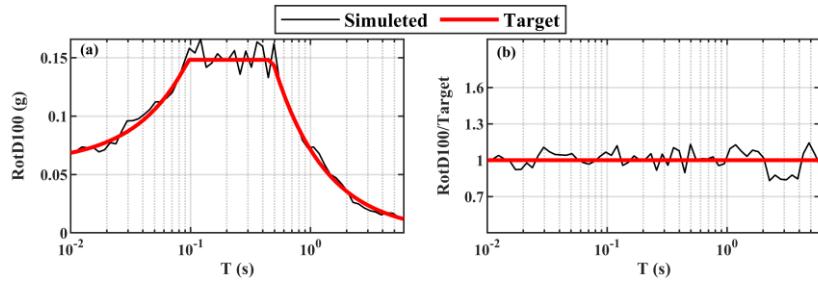


Acceleration time history

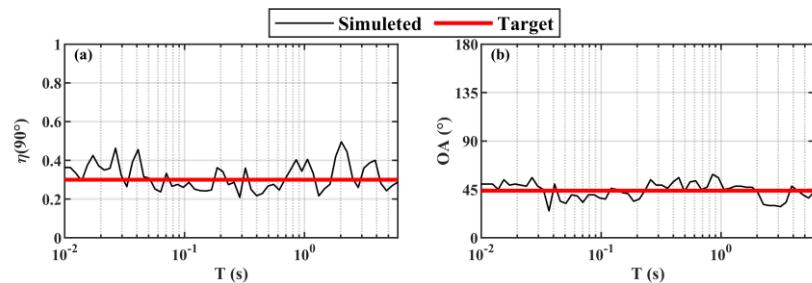


No. 18

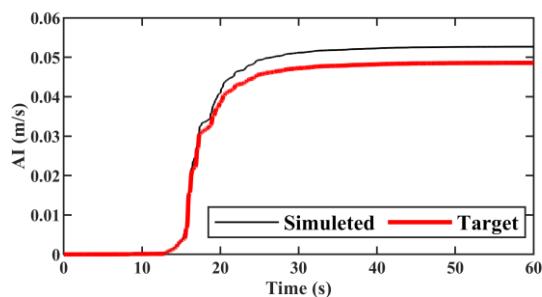
RotD100 response spectrum



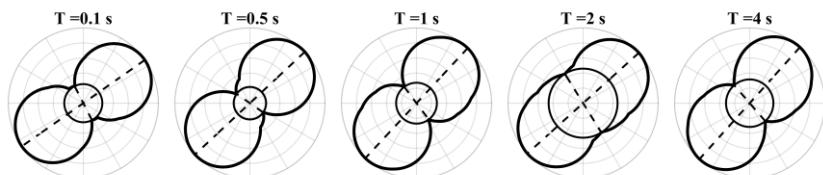
Directionality



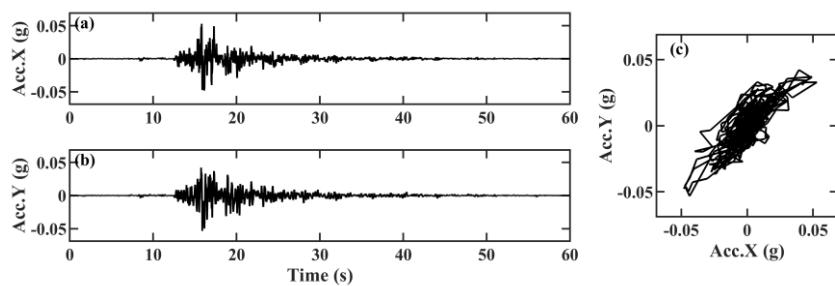
Arias intensity



Spectral demand over all horizontal directions

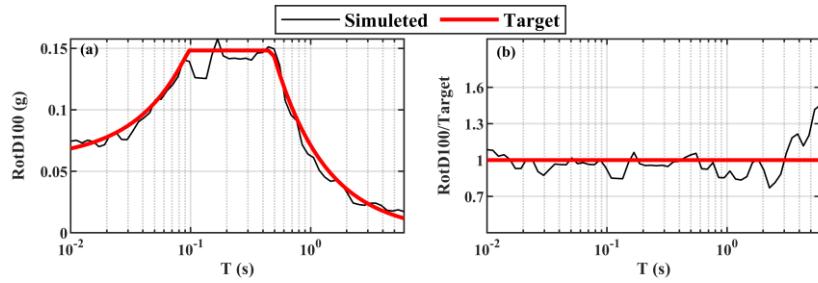


Acceleration time history

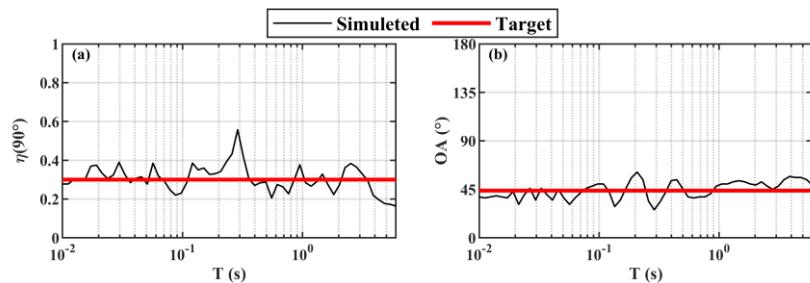


No. 19

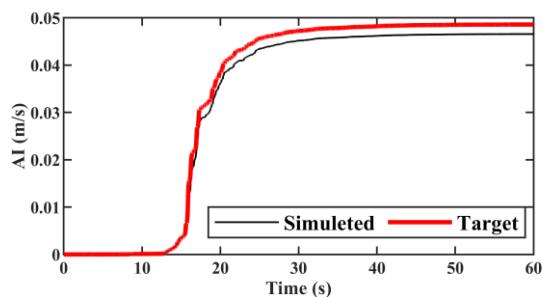
RotD100 response spectrum



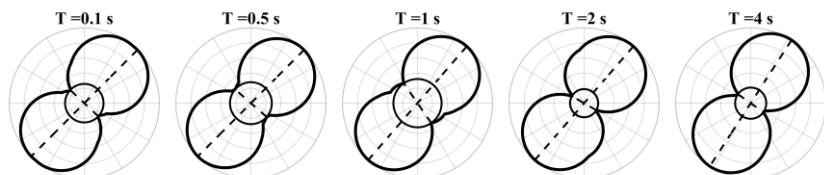
Directionality



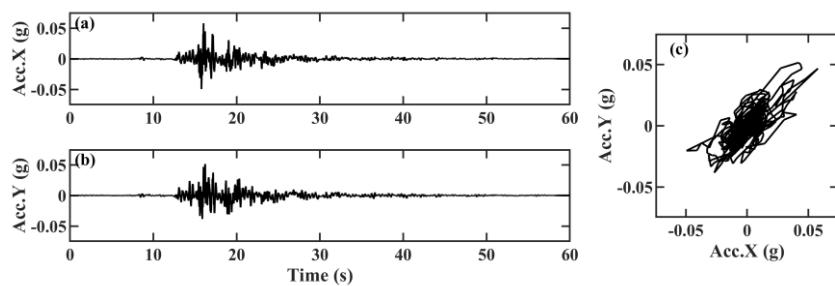
Arias intensity



Spectral demand over all horizontal directions

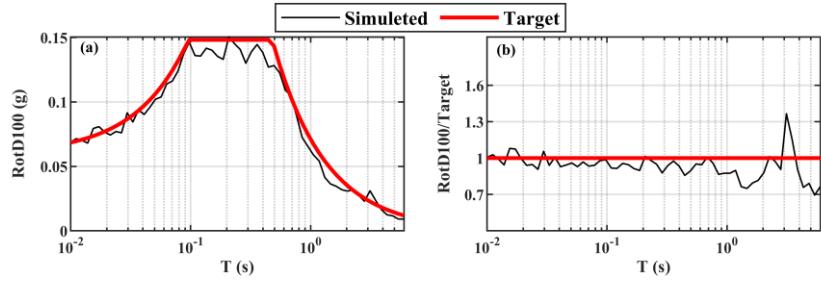


Acceleration time history

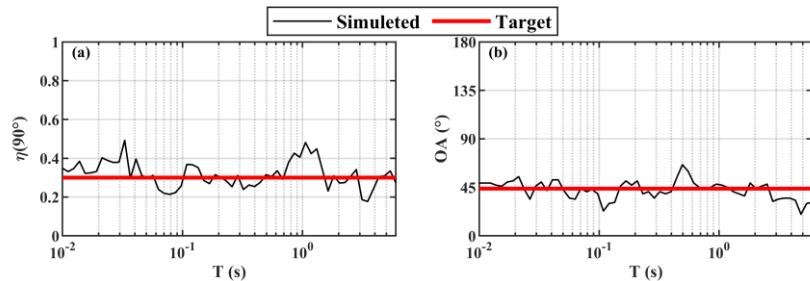


No. 20

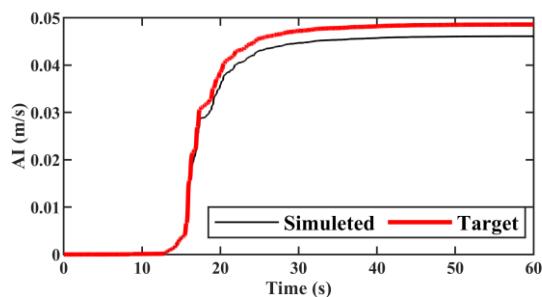
RotD100 response spectrum



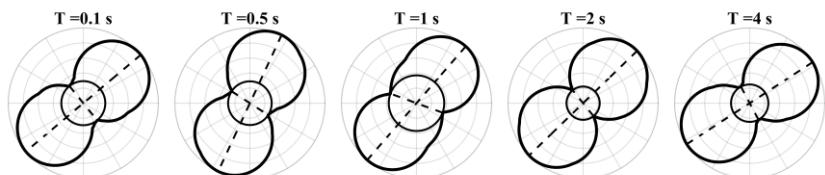
Directionality



Arias intensity



Spectral demand over all horizontal directions



Acceleration time history

