

Preliminary Analysis of the Ground Motion Record at **PWSA**, Bangkok, During the 2025 Mandalay Earthquake

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Acknowledgement

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謝辞

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Summary

- The JMA seismic intensity of the ground motion record at PWSA (Department of Public Works and Town & Country Planning) was 3.5* (equivalent to JMA Seismic Intensity 4), and the JMA long-period ground motion intensity was Level 3.
- A peak was observed around a period of 6.0-6.5 seconds in the velocity response spectrum, indicating that the area experienced long-period ground shaking.

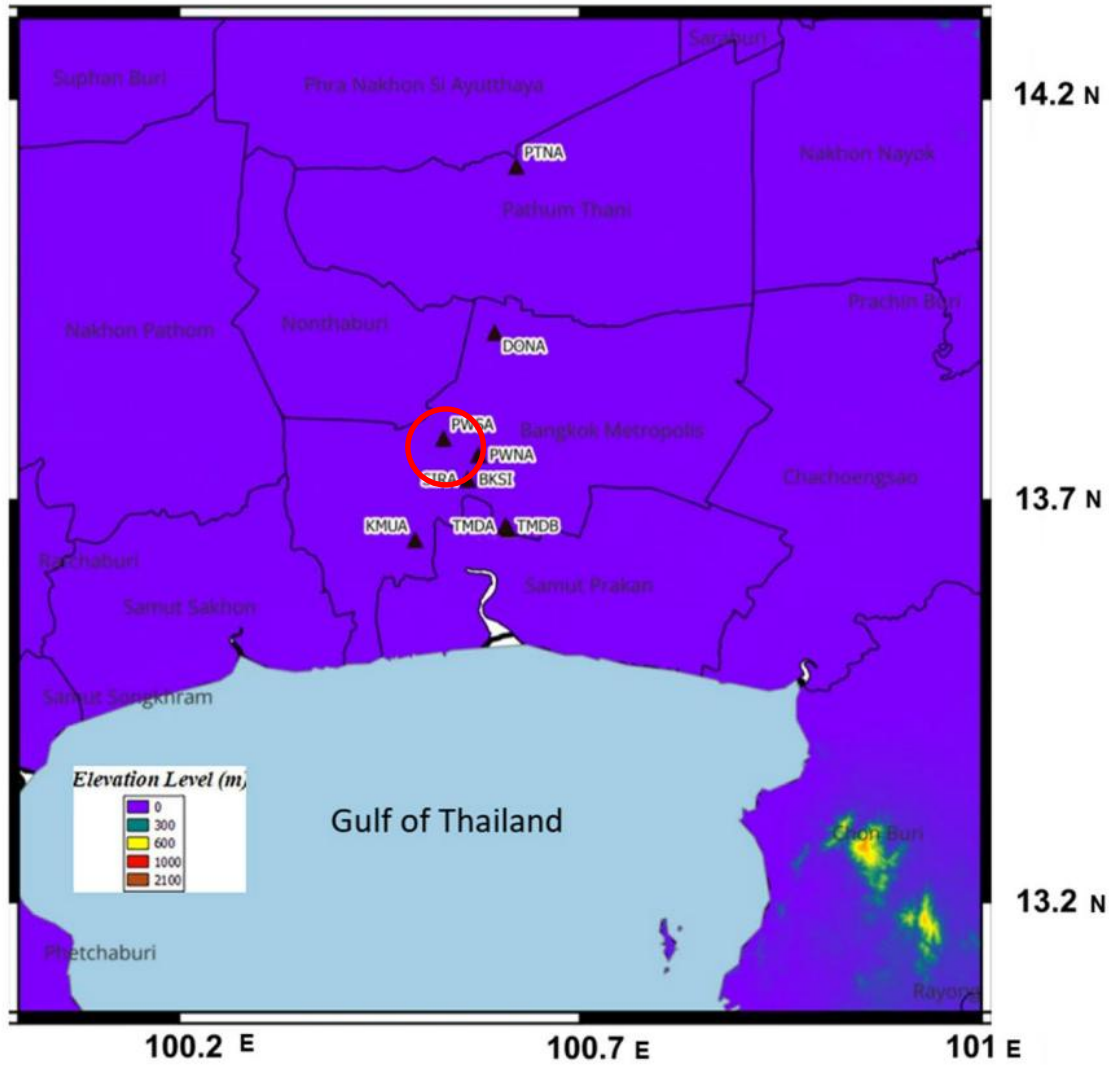
* There is a possibility that the trigger times of the three acceleration components are not synchronized.

概要

- ・バンコク市内のPWSA (Department of Public Works and Town & Country Planning)で観測された地震動の計測震度は3.5(震度4)*, 気象庁の長周期地震動階級は3であった
- ・速度応答スペクトルには周期6.0～6.5秒程度のピークが見られ, 周期の長い揺れに見舞われたものと考えられる

*加速度3成分のトリガ時刻が同期できていない可能性がある

Location of PWSA



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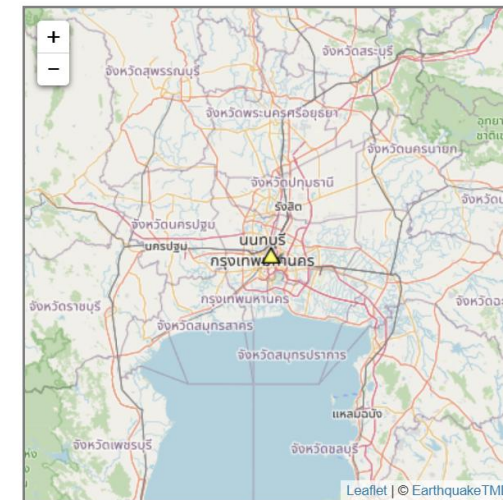
วันพฤหัสบดีที่ 17 เมษายน พ.ศ. 2568

สถานีตรวจวัดอัตราเร่งของพื้นดิน

TM PWSA

กรมโยธาธิการและผังเมือง พระราม 6 ก.ท.ม.

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STATION CODE	PWSA
Name	กรมโยธาธิการและผังเมือง พระราม 6 ก.ท.ม.
Latitude	13.777528
Longitude	100.529536 Google Maps
Accelerometer	5TCDE

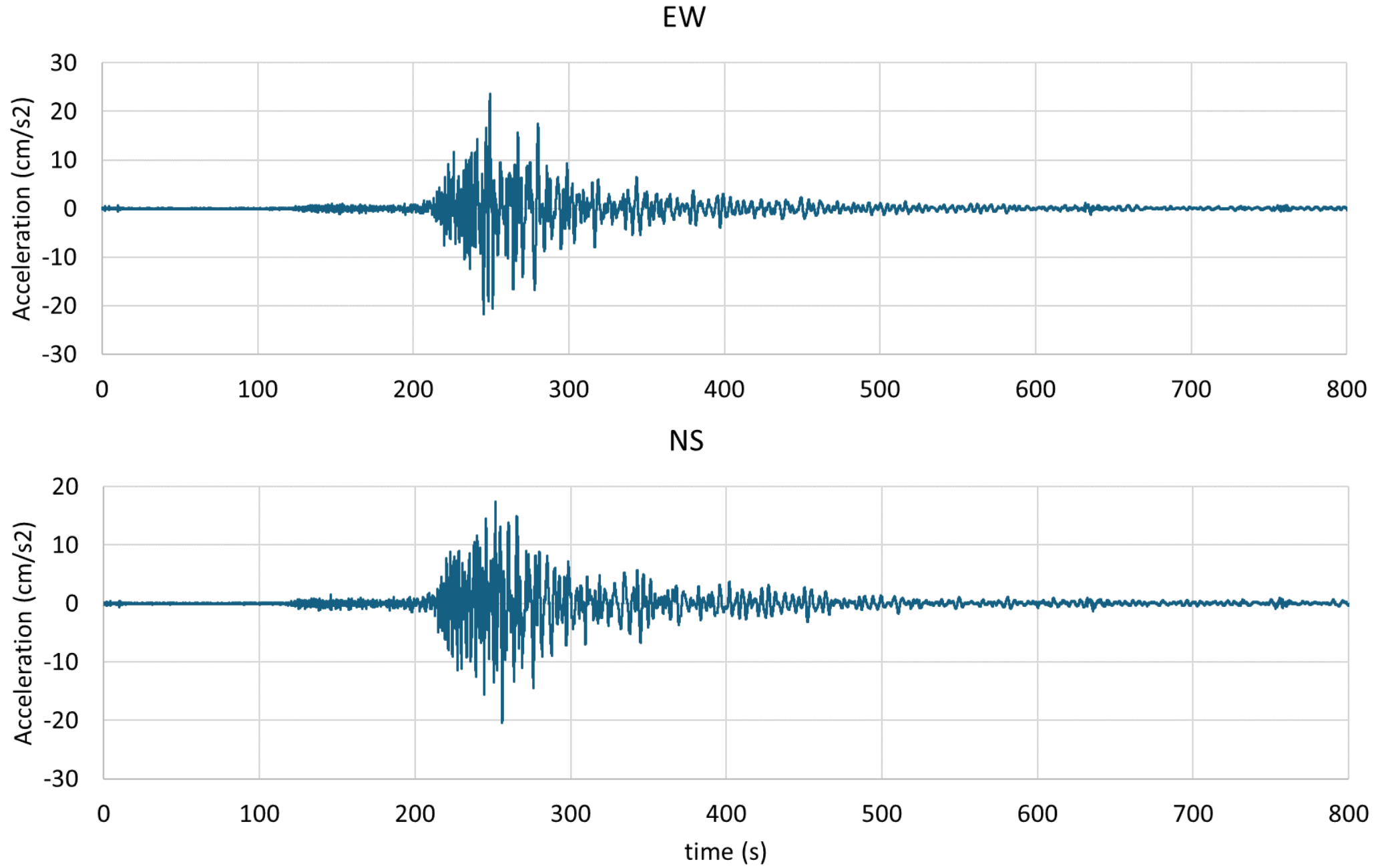
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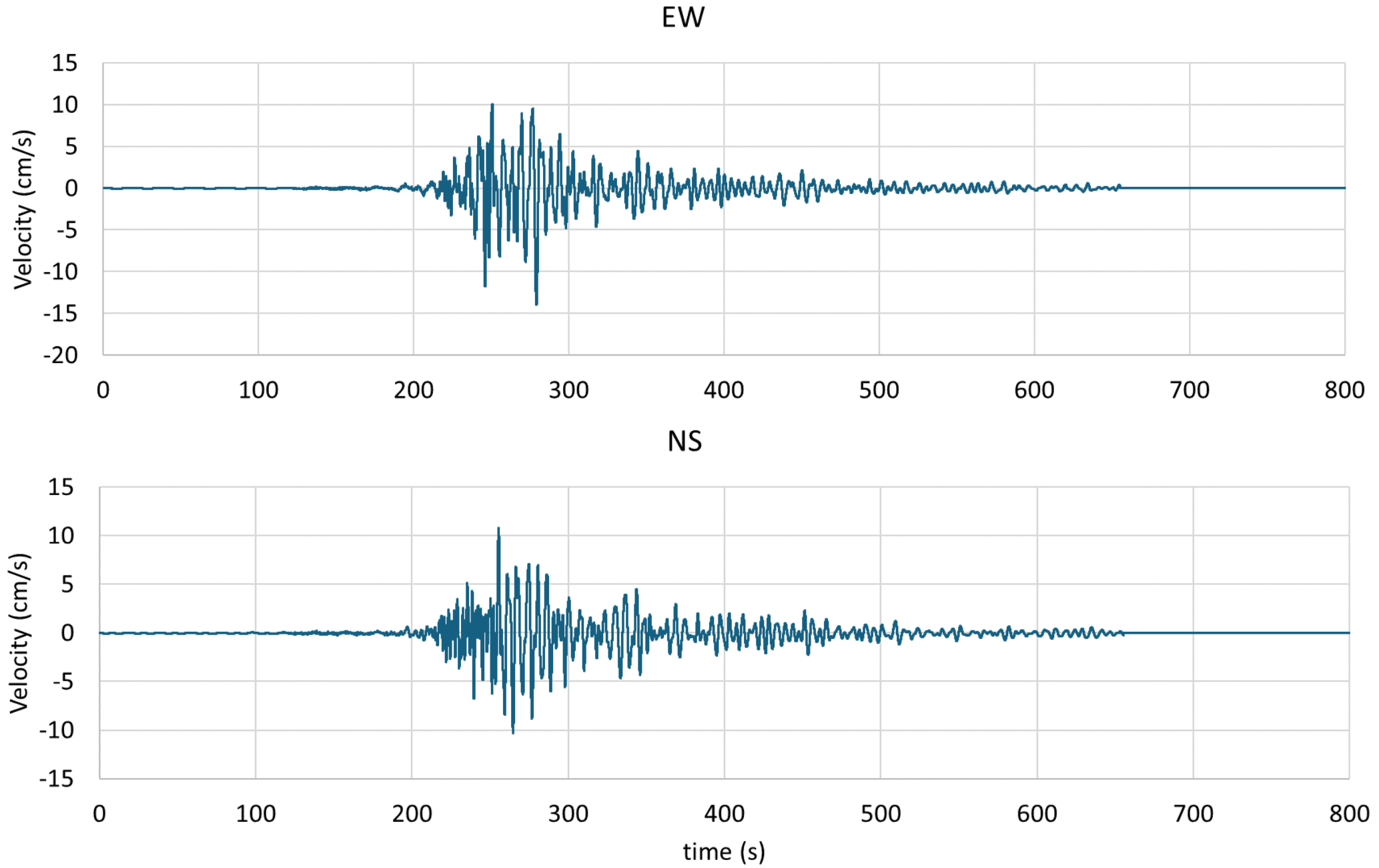
<https://earthquake.tmd.go.th/station-info.html?id=193>

Ornthammarath et al. (2023) Preliminary analysis of amplified ground motion in Bangkok basin using HVSR curves from recent moderate to large earthquakes, Geoenvironmental Disasters

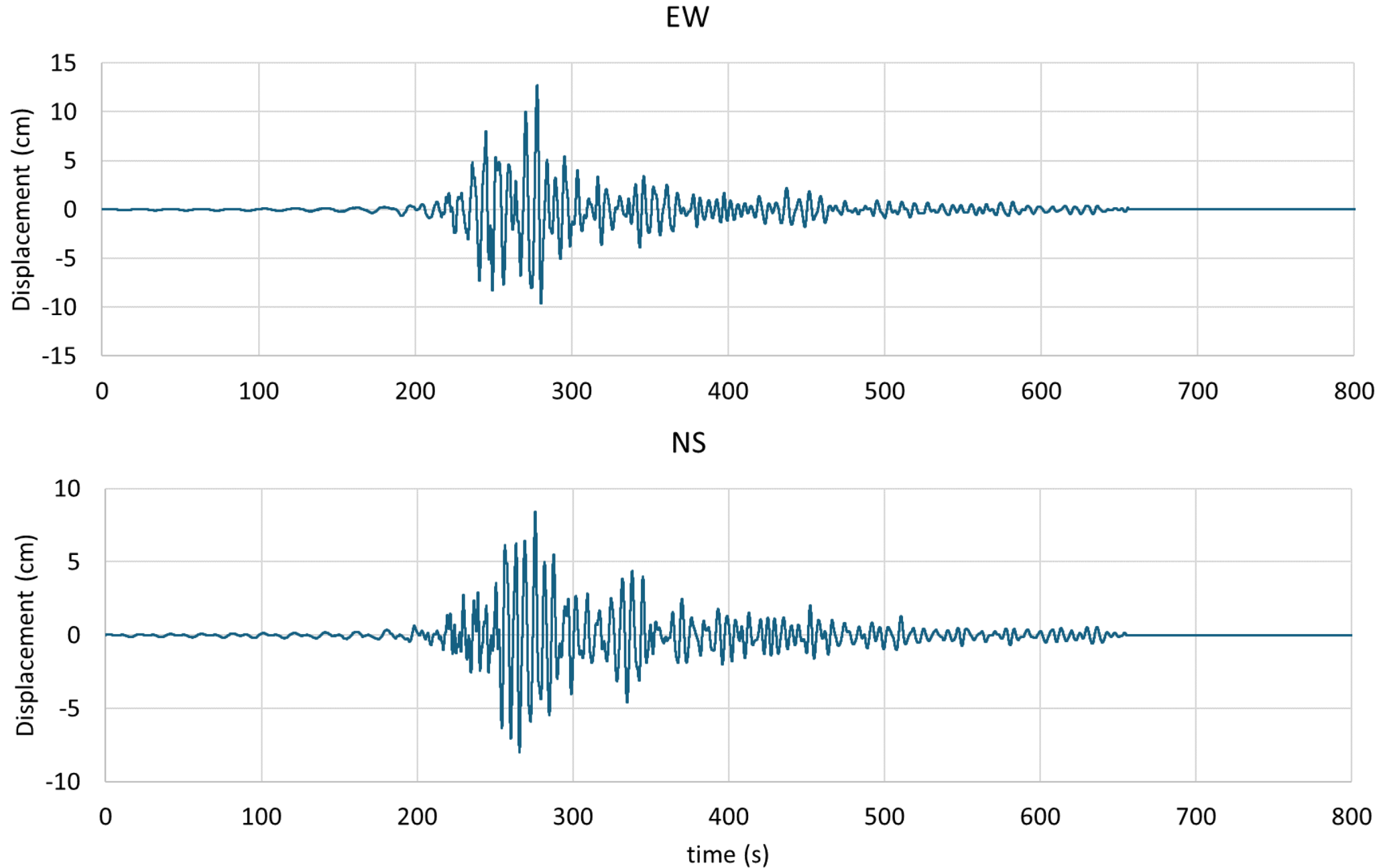
Acceleration Time History



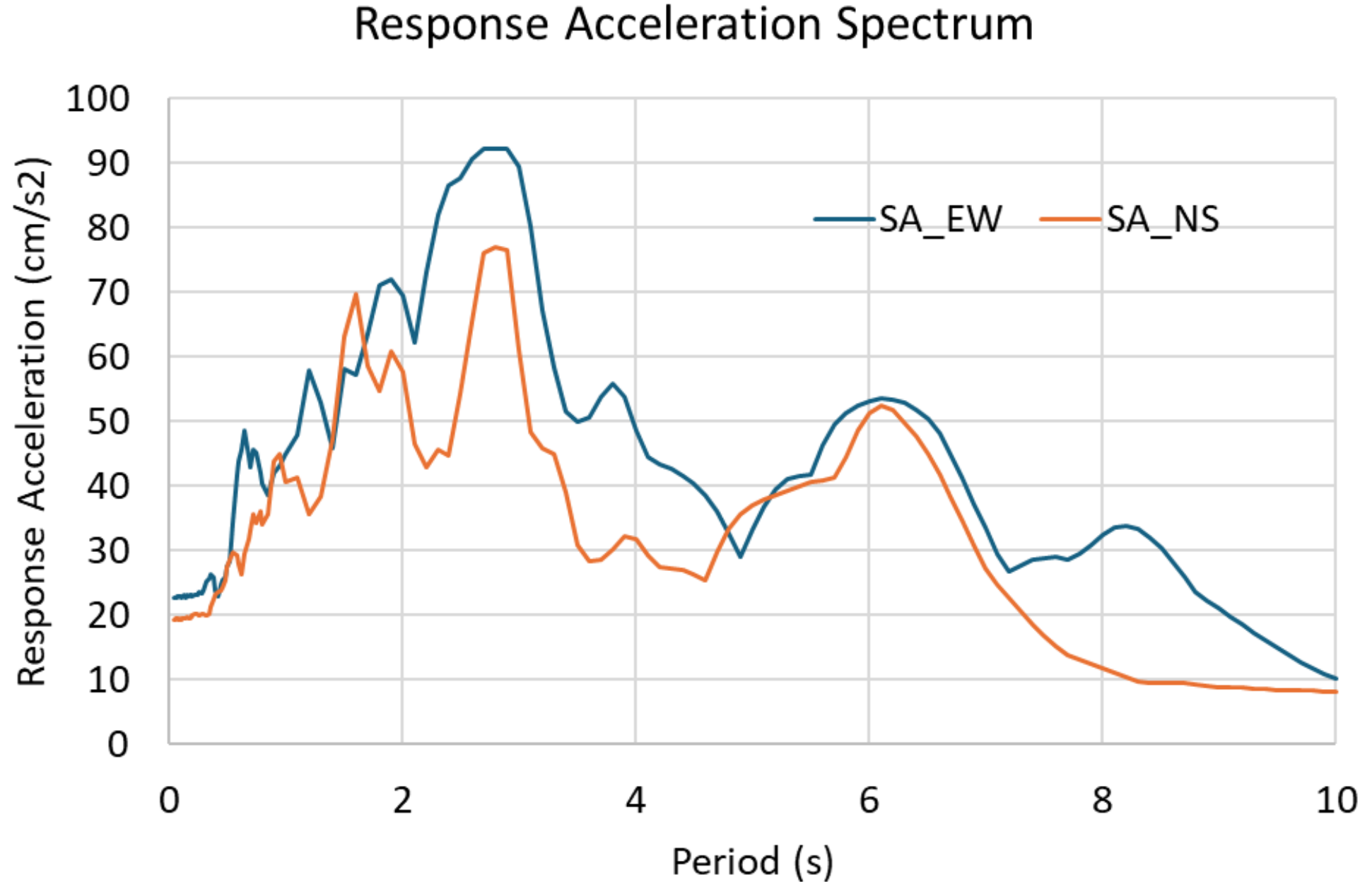
Velocity Time History



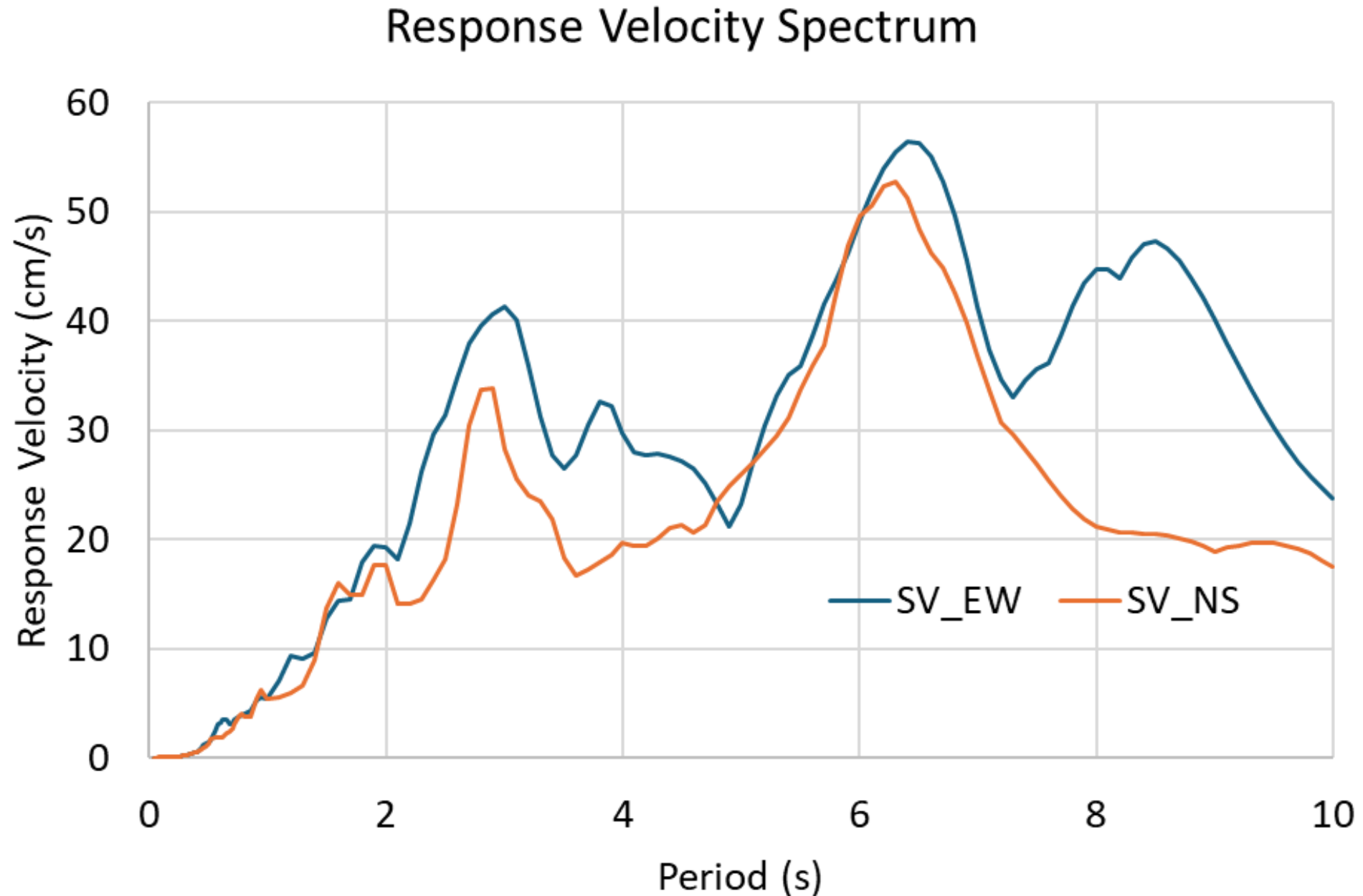
Displacement Time History



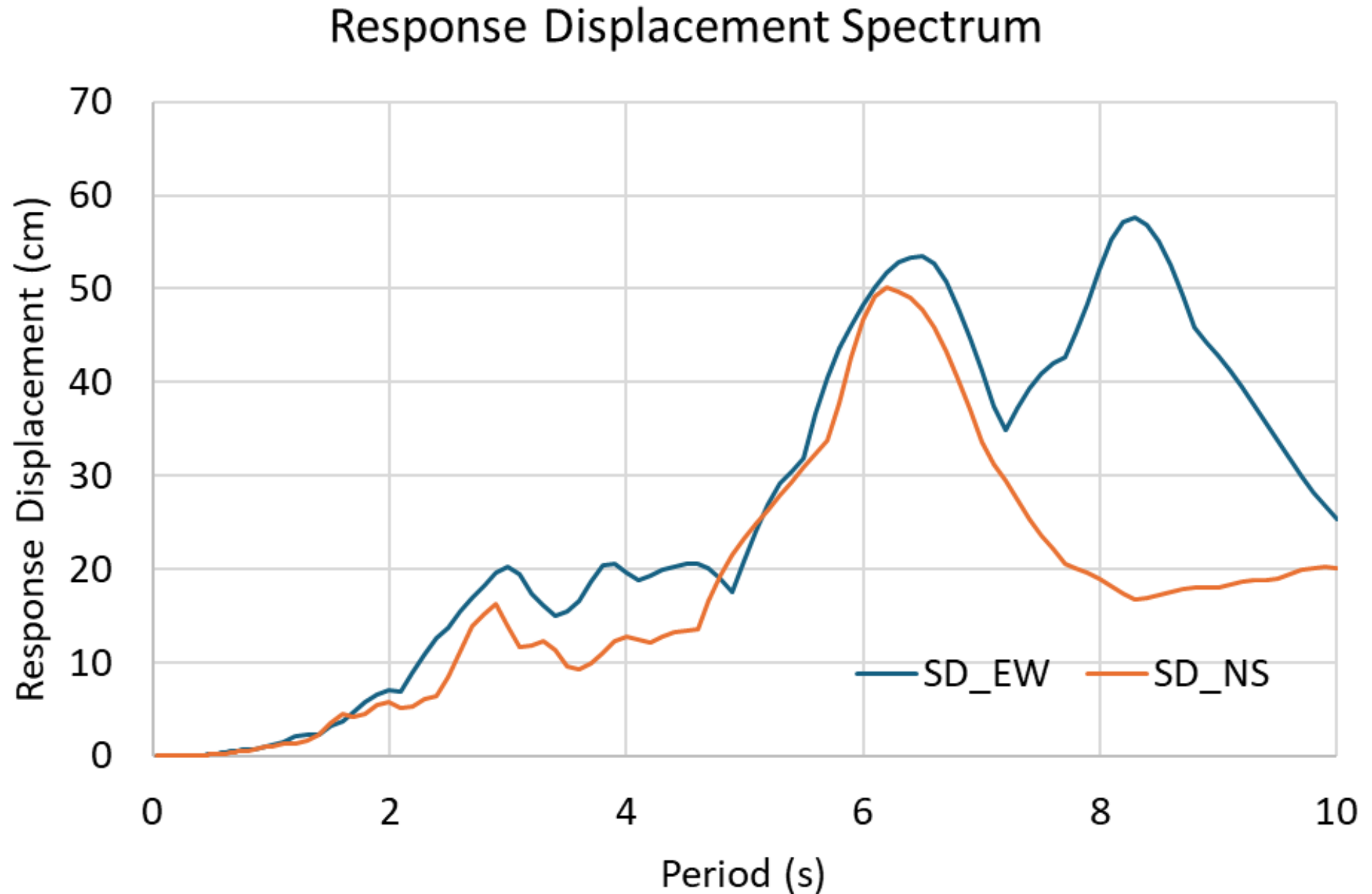
Acceleration Response Spectrum ($h=0.05$)



Velocity Response Spectrum ($h=0.05$)



Displacement Response Spectrum ($h=0.05$)



Seismic Indices

PGA (cm/s²)

EW	NS	UD
23.7	20.5	8.8

PGV (cm/s)

EW	NS	UD
13.9	10.8	4.4

PGD (cm)

EW	NS	UD
12.7	8.4	3.1

JMA Seismic Intensity Scale

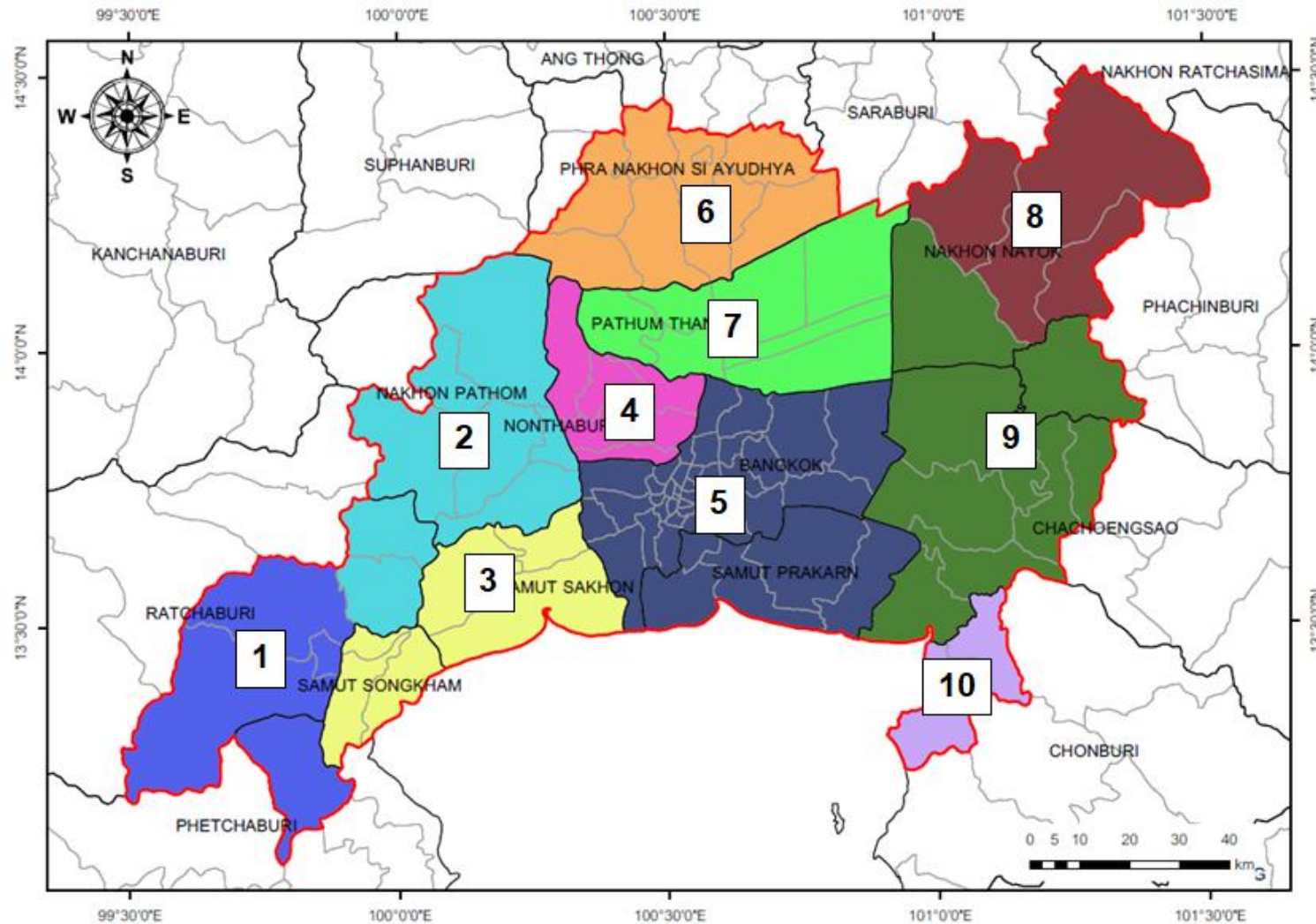
4 (3.5)

JMA Long-period ground motion intensity class

Class 3

Strong swaying. People may find it hard to stand. Furniture may move.

Microzonation map based of the design spectrum for Bangkok



Comparison of the Acceleration Response Spectra at BKSI (h=0.05) with the Design Spectra

