

Preliminary Analysis of the Ground Motion Record at PTNA, 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 PTNA (Pathum Thani) was 3.5* (equivalent to JMA Seismic Intensity 4), and the JMA long-period ground motion intensity was Level 2.
- A peak was observed around a period of 5.8-6.4 seconds in the velocity response spectrum, indicating that the area experienced long-period ground shaking.

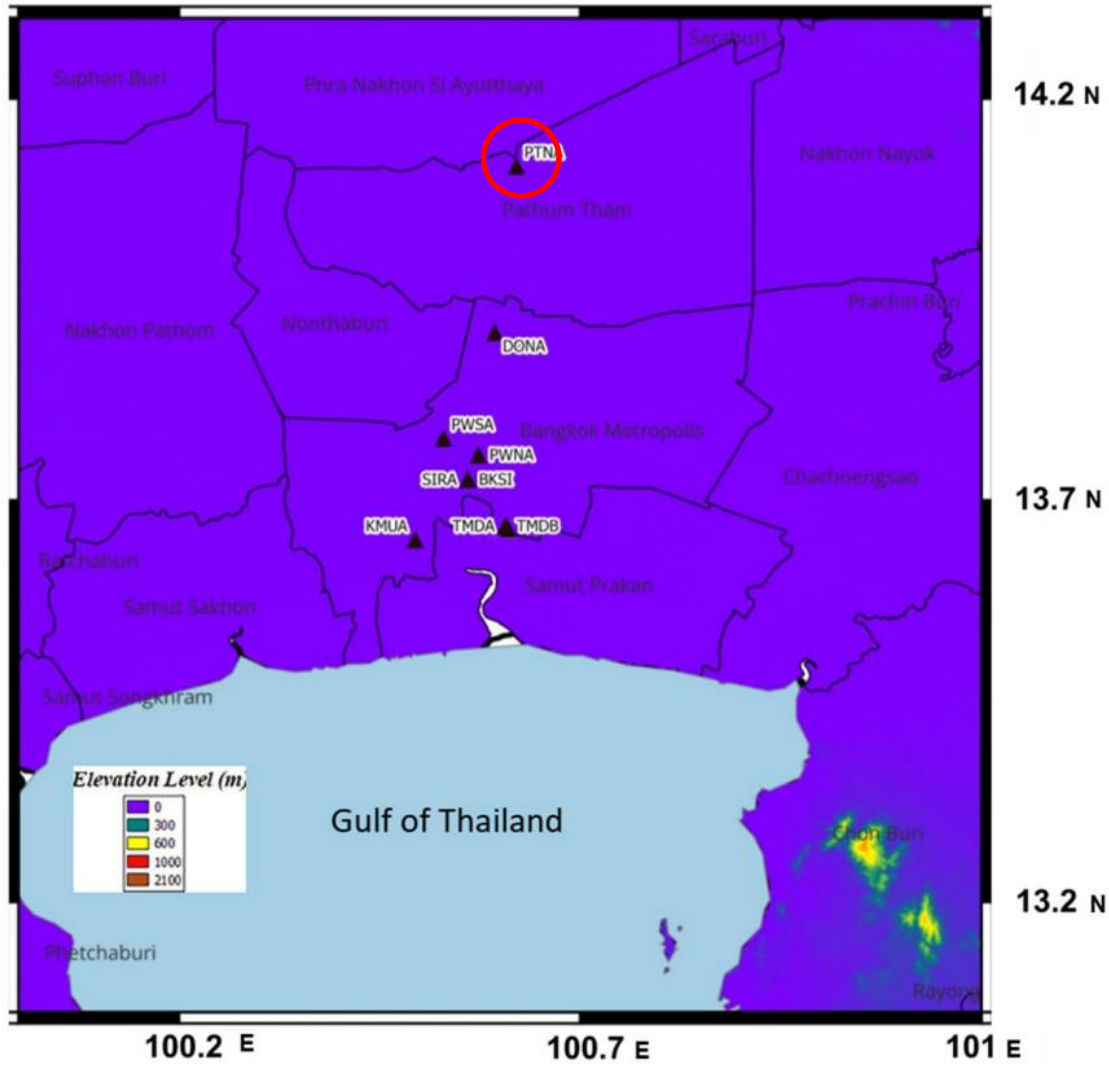
* There is a possibility that the trigger times of the three acceleration components are not synchronized.

概要

- ・バンコク近郊のPTNA (Pathum Thani) 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2であった
- ・速度応答スペクトルには周期5.8~6.4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 PTNA



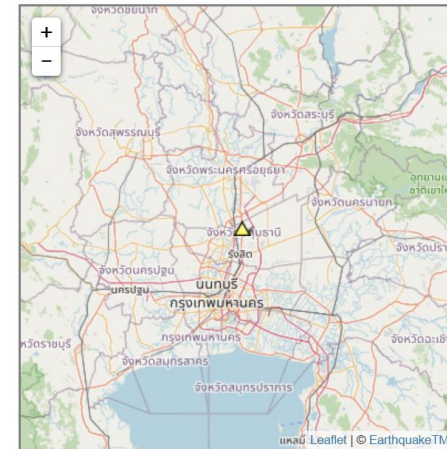
Logo of the Earthquake Observation Division (EOD) and the Thai National Earthquake Information Center (TNEIC). The text includes "กองเฝ้าระวังแผ่นดินไหว" (Earthquake Observation Division) and "EARTHQUAKE OBSERVATION DIVISION". It also mentions "ISO 9001 Quality Management Systems CERTIFIED". Contact information includes "HOTLINE : 02-366-9410, 02-399-0969, 02-399-4547" and "CALL CENTER : 1182". The website "earthquake.tmd.go.th" is listed. The date "วันพฤหัสบดีที่ 17 เมษายน พ.ศ. 2568" is shown.

สถานีตรวจวัดอัตราเร่งของพื้นดิน

TM PTNA

สถานีอุตุนิยมวิทยาปทุมธานี จ.ปทุมธานี

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STATION CODE	PTNA
Name	สถานีอุตุนิยมวิทยาปทุมธานี จ.ปทุมธานี
Latitude	14.116106
Longitude	100.620321 Google Maps
Accelerometer	5TCDE

ติดต่อ | กองเฝ้าระวังแผ่นดินไหว กรมอุตุนิยมวิทยา

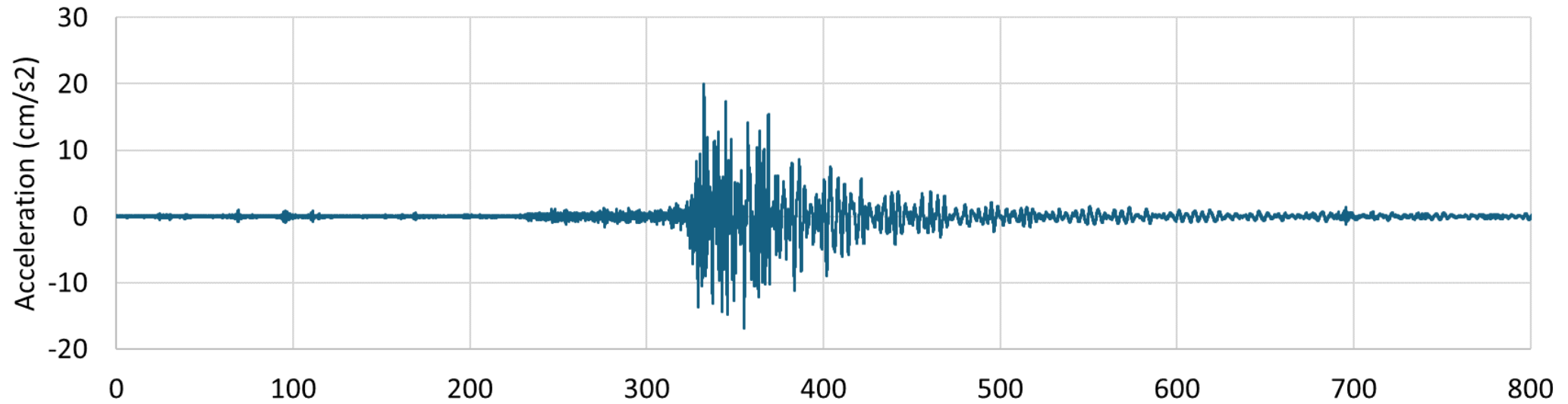
Online 369 UIP

<https://earthquake.tmd.go.th/station-info.html?id=44>

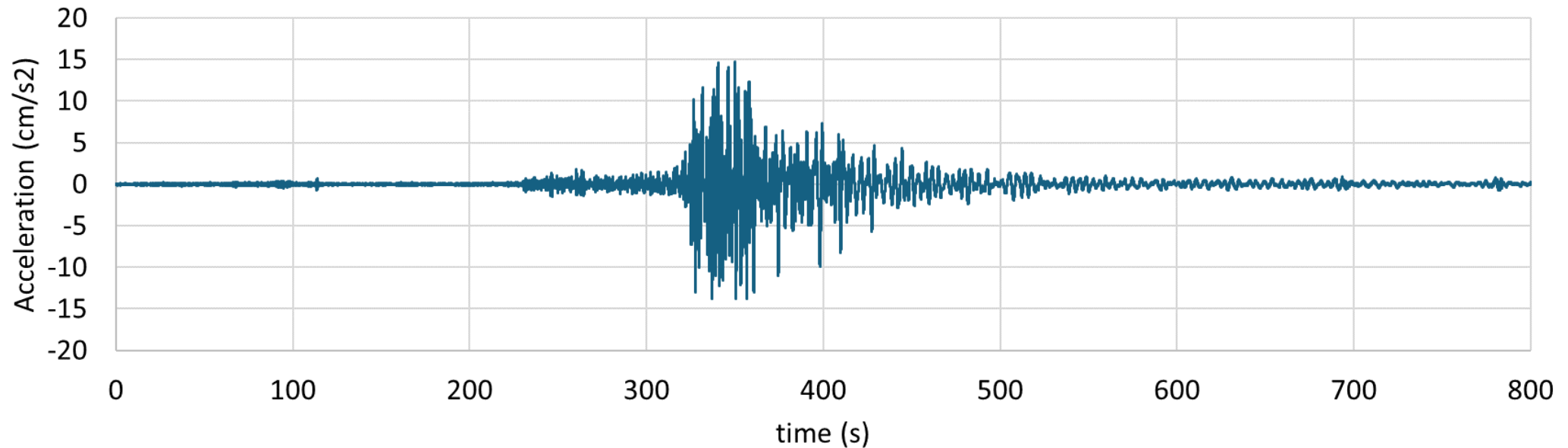
Ornthammarath et al. (2023) Preliminary analysis of amplified ground motion in Bangkok basin using HVSR curves from recent moderate to large earthquakes, Geoenvironmental Disasters

Acceleration Time History

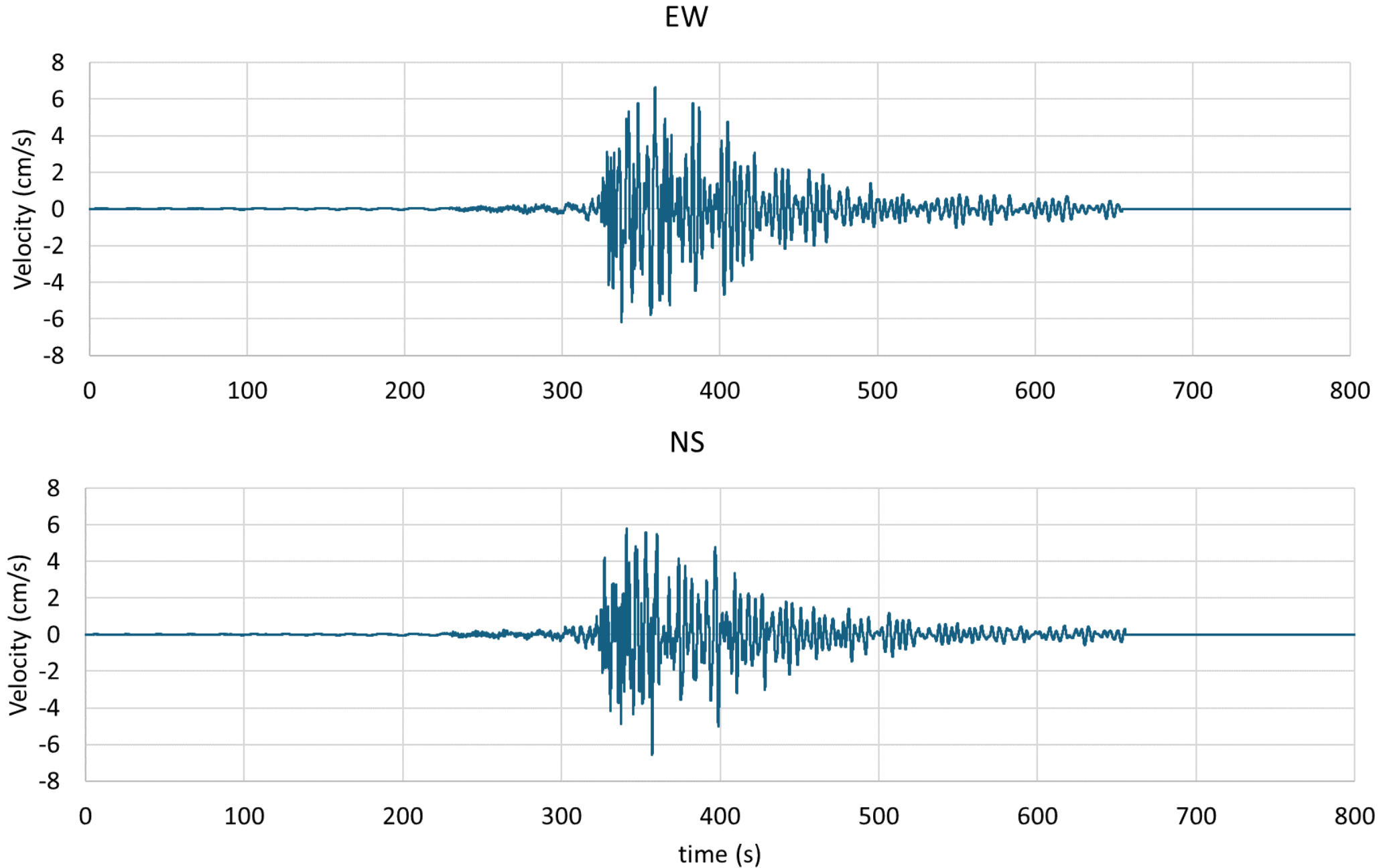
EW



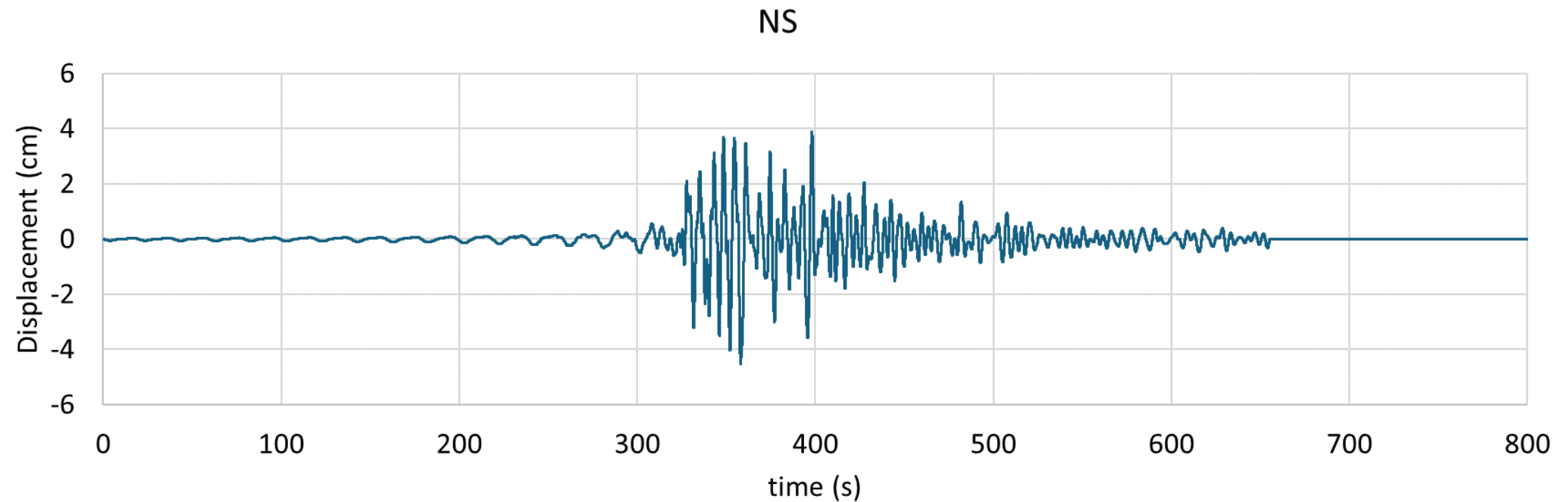
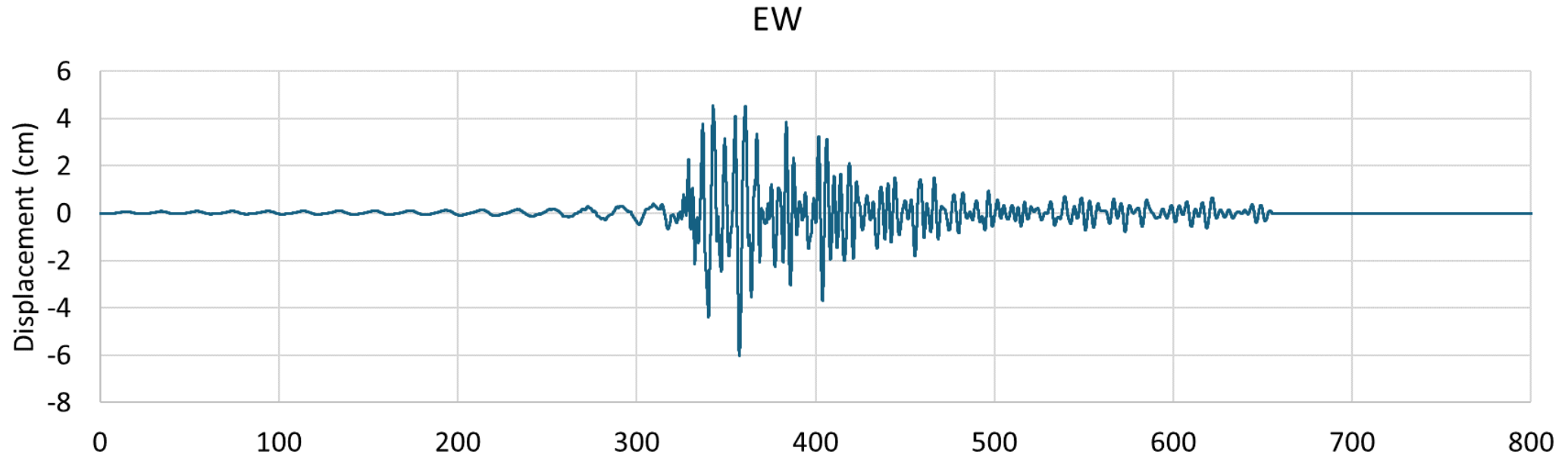
NS



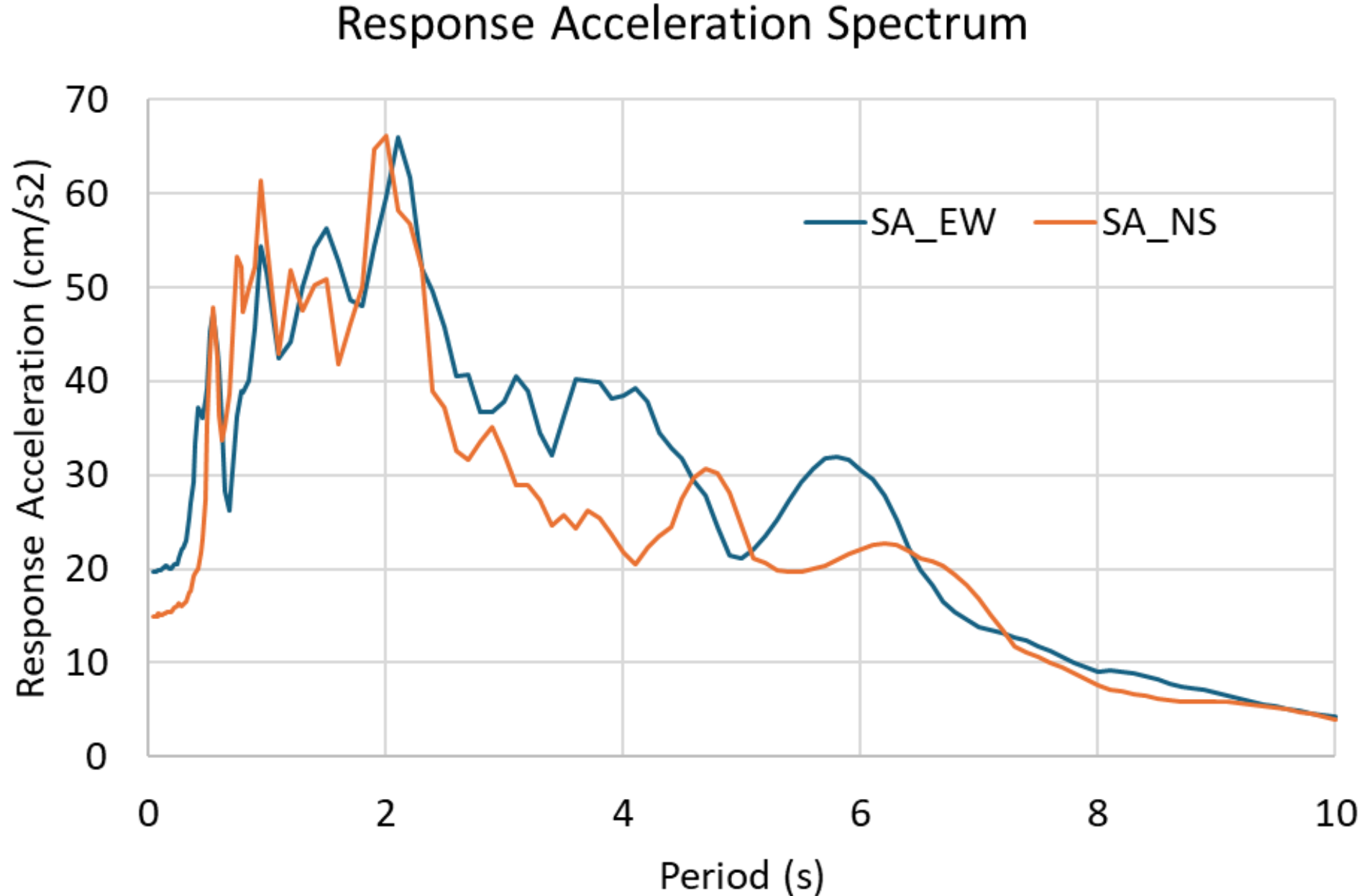
Velocity Time History



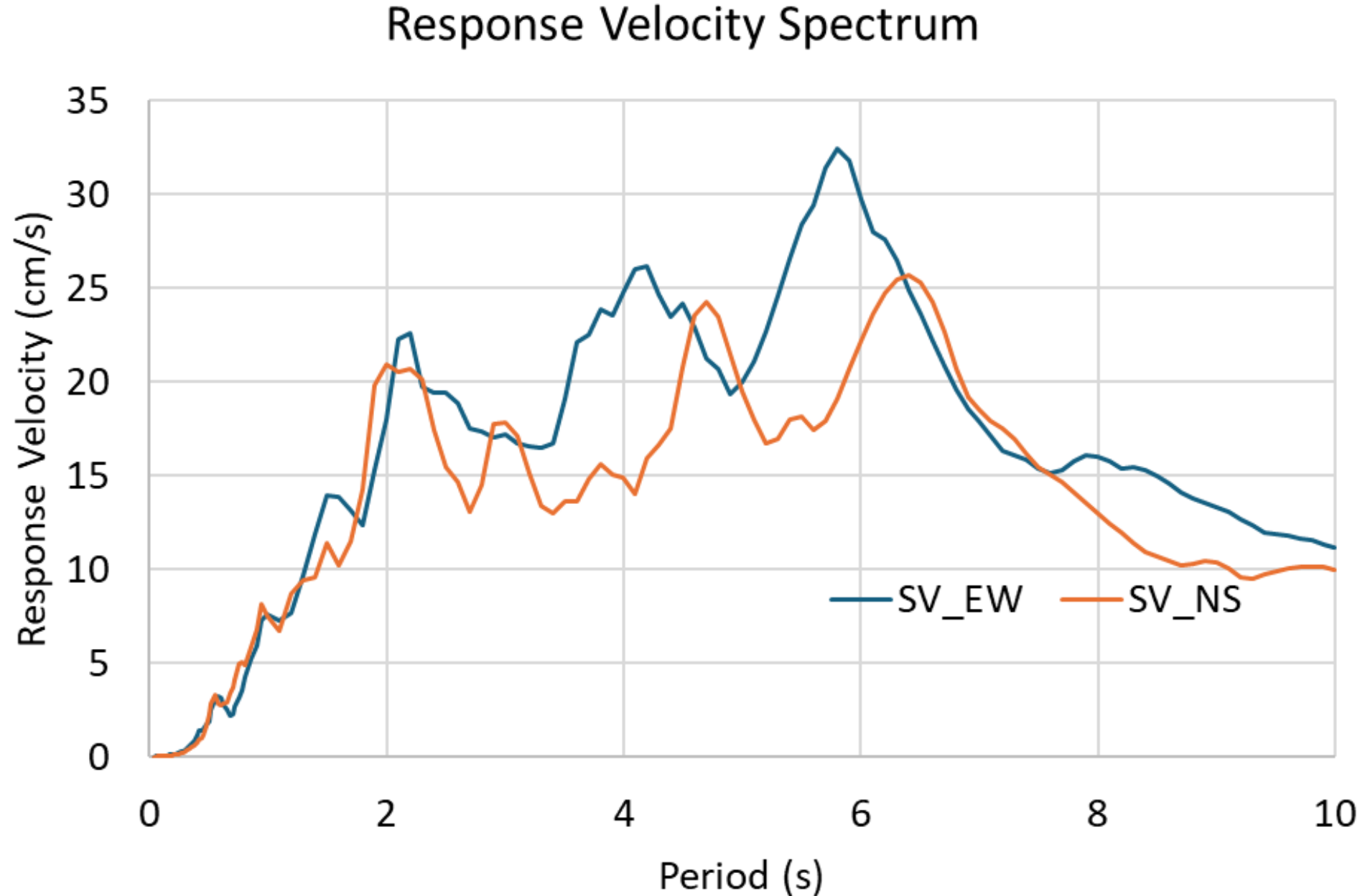
Displacement Time History



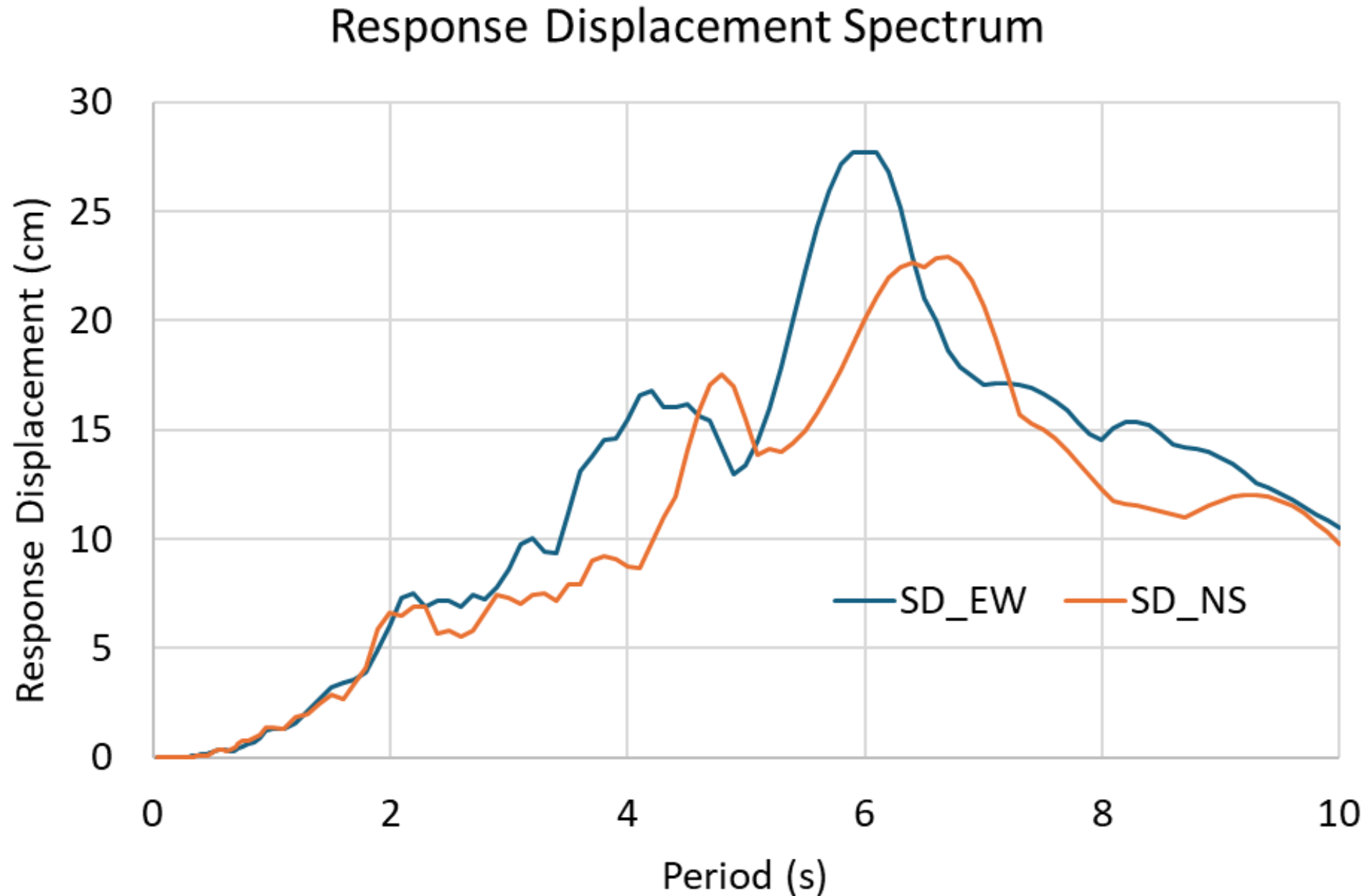
Acceleration Response Spectrum ($h=0.05$)



Velocity Response Spectrum ($h=0.05$)



Displacement Response Spectrum ($h=0.05$)



Seismic Indices

PGA (cm/s²)

EW	NS	UD
20.0	14.7	6.4

PGV (cm/s)

EW	NS	UD
6.7	6.6	2.7

PGD (cm)

EW	NS	UD
6.0	4.5	2.3

JMA Seismic Intensity Scale

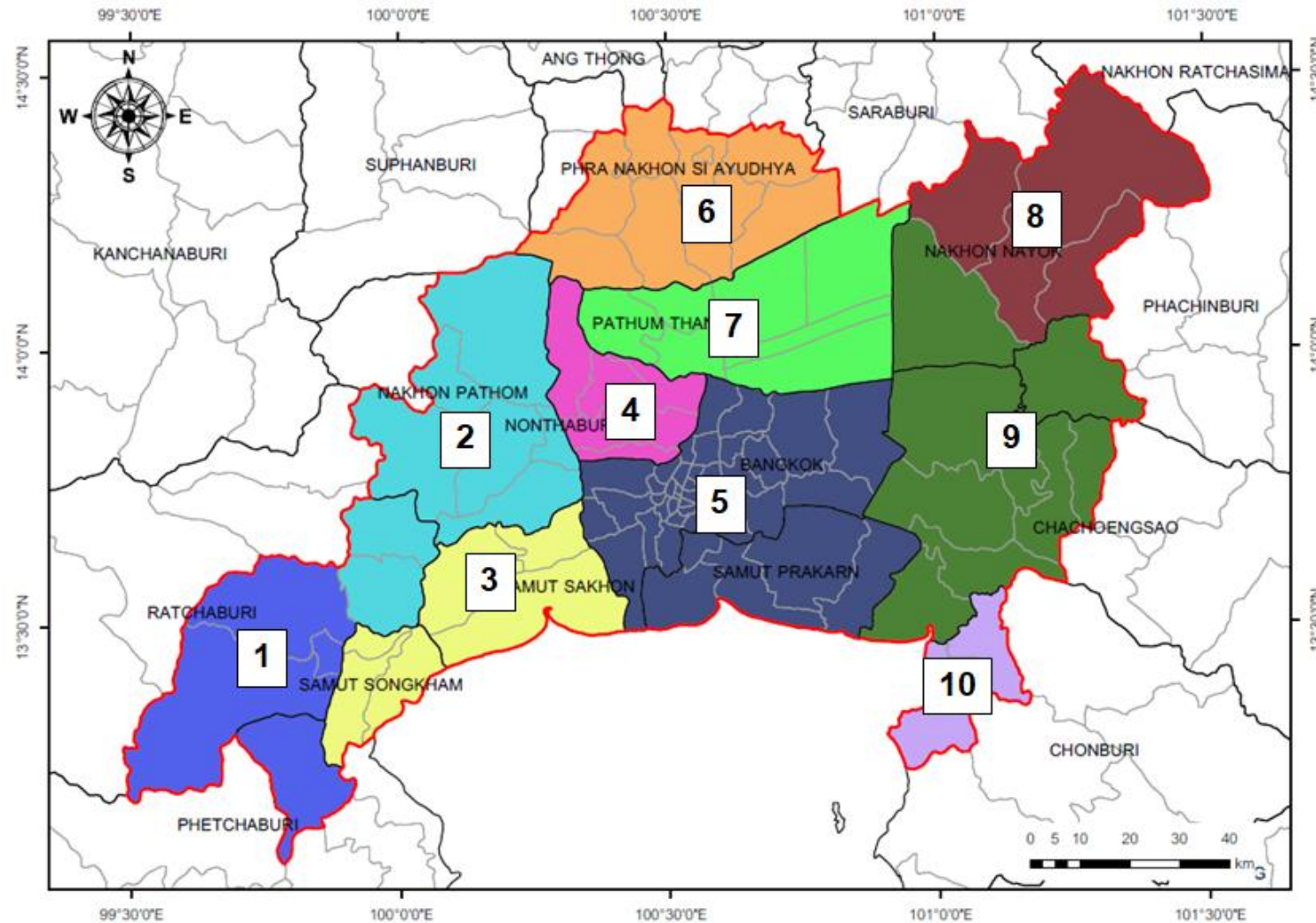
4 (3.5)

JMA Long-period ground motion intensity class

Class 2

Moderate swaying; may cause fear in upper floors.

Microzonation map based of the design spectrum for Bangkok



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

