

## Roseville Anglican College Sports & Wellbeing Centre

### Noise and Vibration Monitoring Report 5

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**SYDNEY**

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## 1 INTRODUCTION

Acoustic Logic (AL) has been engaged to conduct construction noise and vibration monitoring for the demolition, excavation and piling works undertaken at Roseville Anglican College – Sports & Wellbeing Centre. Monitoring has been conducted in accordance with the Construction Noise and Vibration Plan (CNVMP) by this office (*ref: 20220917.1/1907A/R0/SW dated 19<sup>th</sup> July 2022*).

This report covers the monitoring period between Thursday 15<sup>th</sup> November 2022 to Monday 19<sup>th</sup> December 2022.

## 2 SITE DESCRIPTION

The project site is surrounded by existing residential dwellings as well as existing commercial buildings of Roseville College. Refer to Figure 1 for the arial view of the project site and locations of vibration monitors.



**Figure 1: Aerial view of the project site and the sensitive receivers (Sourced : SixMaps)**

### 3 PROJECT CRITERIA

#### 3.1 VIBRATION CRITERIA

Vibration caused by construction at any residence or structure outside the subject site must be limited to:

- For structural damage vibration, German Standard DIN 4150-3 *Structural Vibration: Effects of Vibration on Structures*; and
- For human exposure to vibration, the evaluation criteria presented in the British Standard BS 6472:1992 *Guide to Evaluate Human Exposure to Vibration in Buildings (1Hz to 80Hz)* for low probability of adverse comment.

##### 3.1.1 Structure Borne Vibrations (Building Damage Criteria)

German Standard DIN 4150-3 (2016-12) provides vibration velocity guideline levels for use in evaluating the effects of vibration on structures. The criteria presented in DIN 4150-3 (2016-12) are presented in Table 3.

It is noted that the peak velocity is the value of the maximum of any of the three orthogonal component particle velocities as measured at the foundation, and the maximum levels measured in the x- and y-horizontal directions in the plane of the floor of the uppermost storey.

**Table 1 – DIN 4150-3 (2016-12) Safe Limits for Building Vibration**

TYPE OF STRUCTURE		PEAK PARTICLE VELOCITY (mms <sup>-1</sup> )			
		At Foundation at a Frequency of			Plane of Floor of Uppermost Storey
		< 10Hz	10Hz to 50Hz	50Hz to 100Hz	All Frequencies
1	Buildings used in commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2	Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Lines 1 or 2 and have intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8

The surrounding heritage building would be considered Type 3, educational buildings would be considered a Type 1 structure, whilst residences would be considered a Type 2 structure.

### 3.2 NOISE MANAGEMENT LEVELS

The summarised noise management levels based on the Construction Noise and Vibration Management Plan prepared by this office (ref: 20220917.1/1907A/R0/SW dated 19<sup>th</sup> July 2022) is presented below.

**Table 2 – Summarised Noise Management Levels - Residential**

<b>Receivers</b>	<b>Noise Affected Level – dB(A)<math>L_{eq(15min)}</math> BG + 10</b>	<b>Highly Noise Affected Level – dB(A)<math>L_{eq(15min)}</math></b>
Residential Receivers R1 and R2,	BG(38) + 10 = <b>48</b>	75
Residential Receivers R3 and R4	BG(36) + 10 = <b>46</b>	75

If noise levels exceeded the management levels identified in the table above, reasonable and feasible noise management techniques will be reviewed.

#### 3.2.1 To Active Recreational Receivers and Classrooms

In section 4.1.2 of the ICNG outlines the following noise management noise levels to active recreation areas and classrooms at schools and other educational institutions.

**Table 3 – Noise Management Level – other receivers**

<b>Receivers</b>	<b>Noise Management Level dB(A)<math>L_{eq(15min)}</math></b>
Active Recreational Area A1	65 (external)
Classroom	45 (internal)

## 4 VIBRATION MONITORING

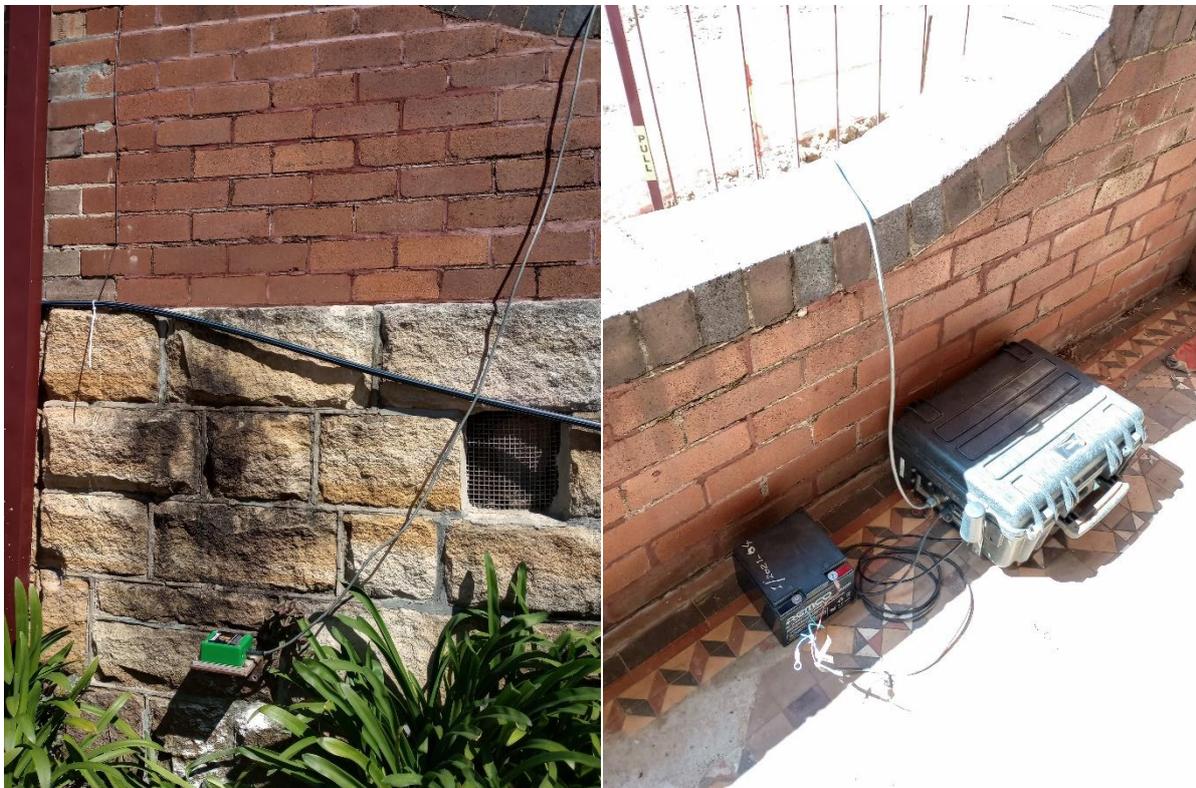
### 4.1 MEASUREMENT EQUIPMENT

Vibration monitoring was conducted using Texcel ETM vibration monitors with external Tri-axial Geophones. The monitors are programmed to store statistical vibration data every 5-minute intervals, along with any 'triggered' events that occur throughout the monitoring period.

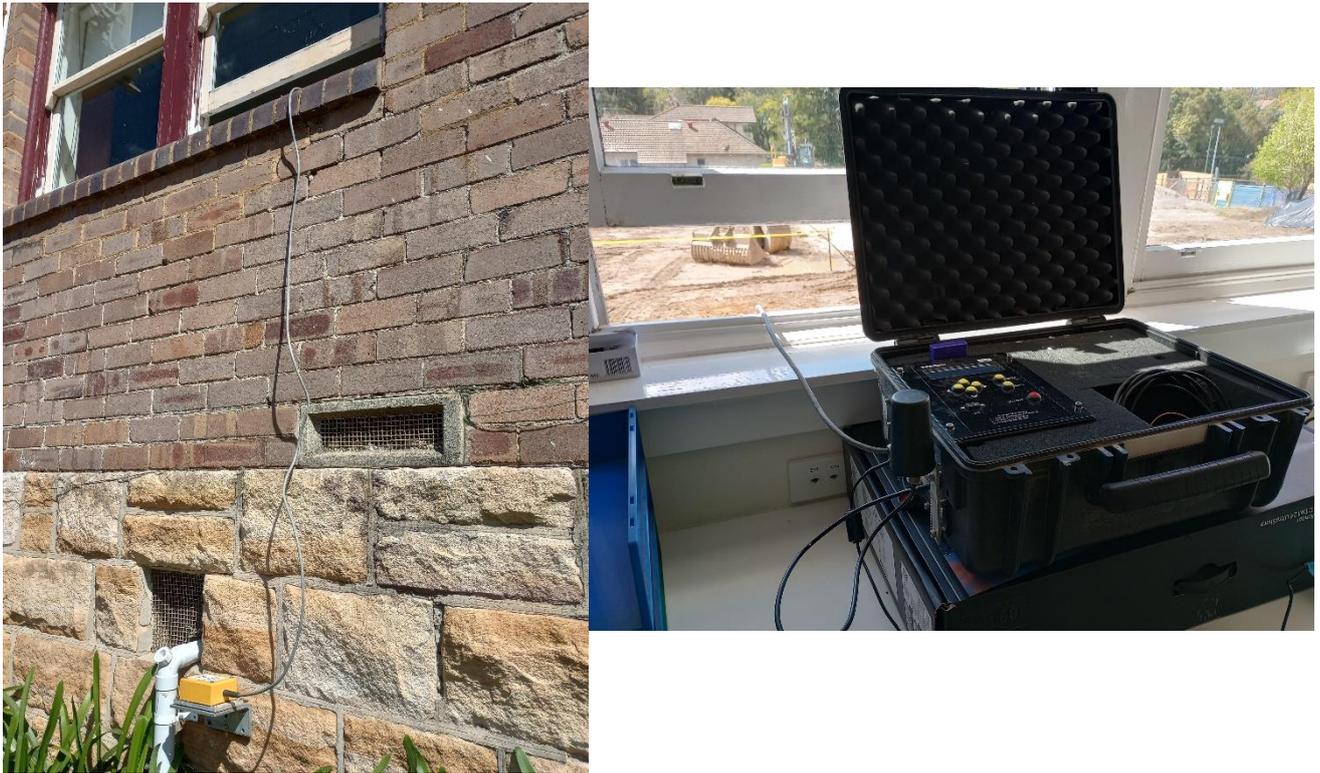
### 4.2 MEASUREMENT LOCATIONS

A total of three (3) vibration monitors was installed for this project site along the western and eastern boundary as demolition, excavation and piling works to be undertaken in proximity to these receivers

A detailed measurement locations are presented in Figure 1 above; the following figures shows the vibration monitors that are currently on site.



**Figure 2: M7713/M7427 at the front area of the heritage building**



**Figure 3: M7427/M7496 at the rear end of the heritage building**



**Figure 4: M7715 at the eastern boundary of the project site**

## 5 NOISE MONITORING

### 5.1 MEASUREMENT EQUIPMENT

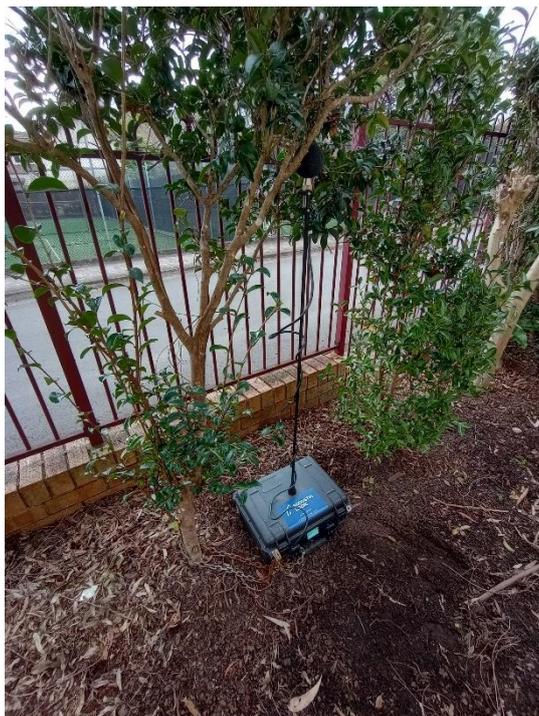
Unattended noise monitoring was conducted using with Acoustic Research Laboratories noise monitors set on A-weighted fast response mode. All monitors were calibrated before and after the measurements using a Rion Type NC-73 calibrator. No significant drift was recorded.

### 5.2 MEASUREMENT LOCATIONS



**Figure 5: (left) noise monitor (N1) at the garden, Auditorium.**

**(right) noise monitor (N2) in front of JY**



**Figure 6: noise monitor (N3) along recreation avenue.**

## 6 MONITORING RESULTS

### 6.1 VIBRATION MONITORING RESULTS

Appendix 1-3 presents the available vibration results for the monitoring period.

- M7427/M7496 measured exceedances on the 17<sup>th</sup> and 30<sup>th</sup> November 2022. The monitor M7427 was removed from site for calibration service, and a replacement monitor M7496 was installed on the 18<sup>th</sup> November 2022. Exceedances measured on the 17<sup>th</sup> and 30<sup>th</sup> November 2022 were due to piling works being undertaken in the immediate proximity of the geophone sensor (as advised by the site team), artificially inflating results that would be experienced at the residential receiver.
- M7713 measured exceedance on the 15<sup>th</sup>, 16<sup>th</sup>, 17<sup>th</sup> November 2022. Project team notified that no works were being undertaken near the monitor M7713 during the exceedances mentioned above, thus the monitor was retrieved on the 18<sup>th</sup> November 2022. A replacement monitor M7427 was installed on the 7<sup>th</sup> December 2022 and monitoring levels were then returned to normal levels.
- M7715 measured exceedance on the 12<sup>th</sup> December 2022. Project team was notified, and we were informed that excavation and piling works were being undertaken in the immediate proximity of the geophone sensor, artificially inflating results that would be experienced at the residential receiver.
- In the event that continuous exceedances are notified via SMS notifications and the construction activities are identified, site practices are to be modified to prevent or mitigate to prevent the likelihood of recurrence.

### 6.2 NOISE MONITORING RESULTS

Appendix 4-6 presents the available noise results for the monitoring period. All noise monitoring ended and monitors were retrieved from site on the 7<sup>th</sup> December 2022.

- Noise measurements within and adjacent to school grounds are generally affected by activity noise within the school, particularly during recess and lunch time periods. As such, the measured noise levels are generally a combination of noise generated by construction, heavy winds and school activities. With regard to this we note:
  - In monitoring locations within the school seems to present a trend of noise levels between 65-75dB(A)<sub>Leq</sub> during scheduled external play times, which are likely to be from school operation rather than construction works. Noise level gradually as during the evening period when there's no construction works.
  - Noise levels were elevated during this monitoring period due to meteorological events.
  - For periods where there is little or no school operation (Saturdays, for example), noise from construction is within the nominated management levels, noting that the same or similar works (piling/excavation) are occurring on all days.
  - Further, sample attended measurements of noise impact from construction works (use of excavator and piling rigs) to internal areas of the school have been conducted in multiple locations of the school (*ref: 20220917.8/1310A/R0/SW*) and have confirmed that the noise levels in the classrooms were below the noise management levels.
- Notwithstanding, in the event that the school has raised an issue with regards to the construction noise, construction methodologies are to be reviewed and modified to prevent or mitigate the likelihood of recurrence.

## 7 CONCLUSION

Acoustic Logic has undertaken noise and vibration monitoring for the project site at Roseville Anglican College- Sports & Wellbeing Centre.

This report presents the noise and vibration results for the monitoring period Thursday 15<sup>th</sup> November 2022 to Monday 19<sup>th</sup> December 2022.

We trust this information is satisfactory. Please contact us should you have any further queries.

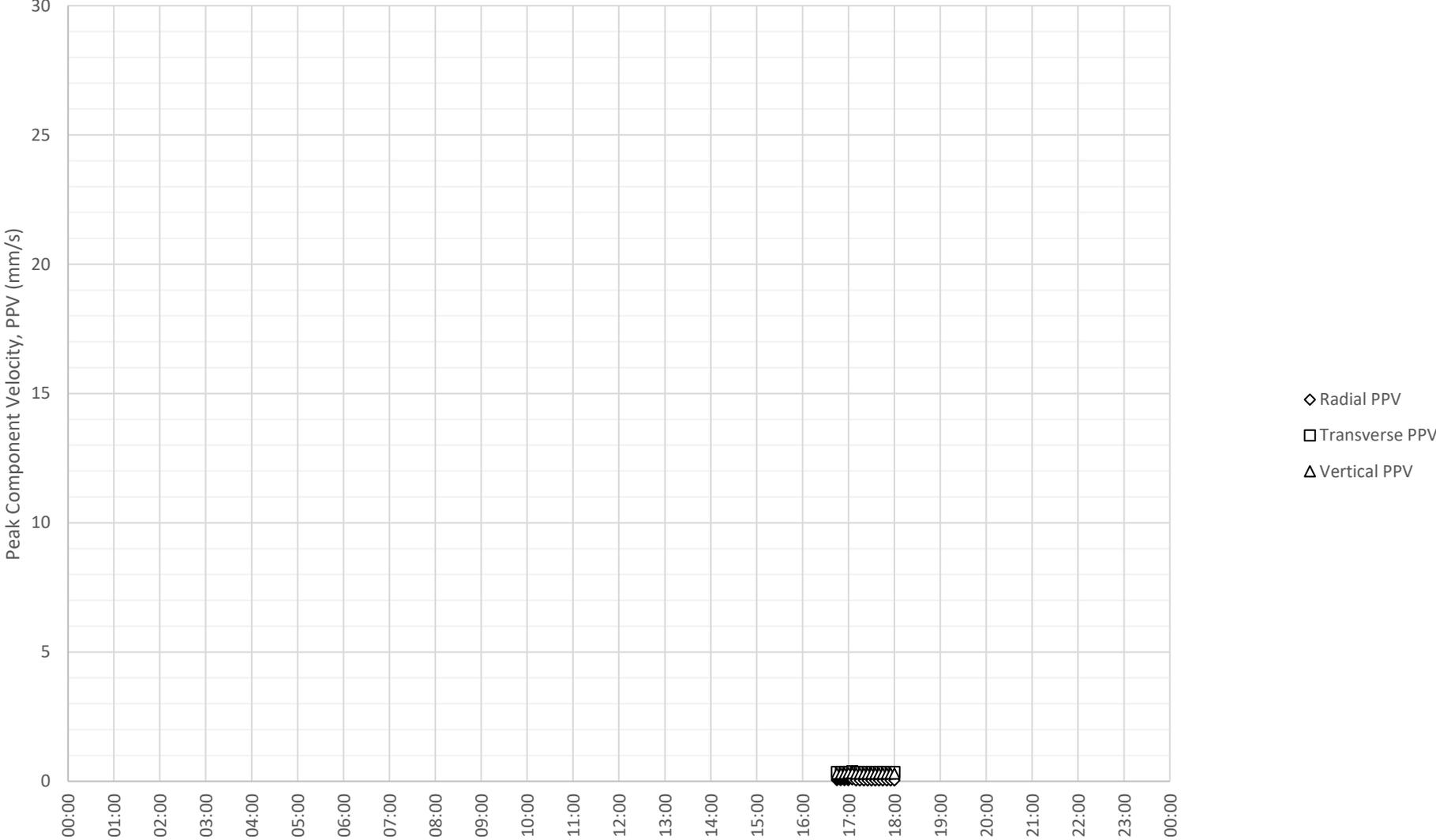
Yours faithfully,

A handwritten signature in black ink, appearing to read 'Samantha Wong', written in a cursive style.

Acoustic Logic Pty Ltd  
Samantha Wong

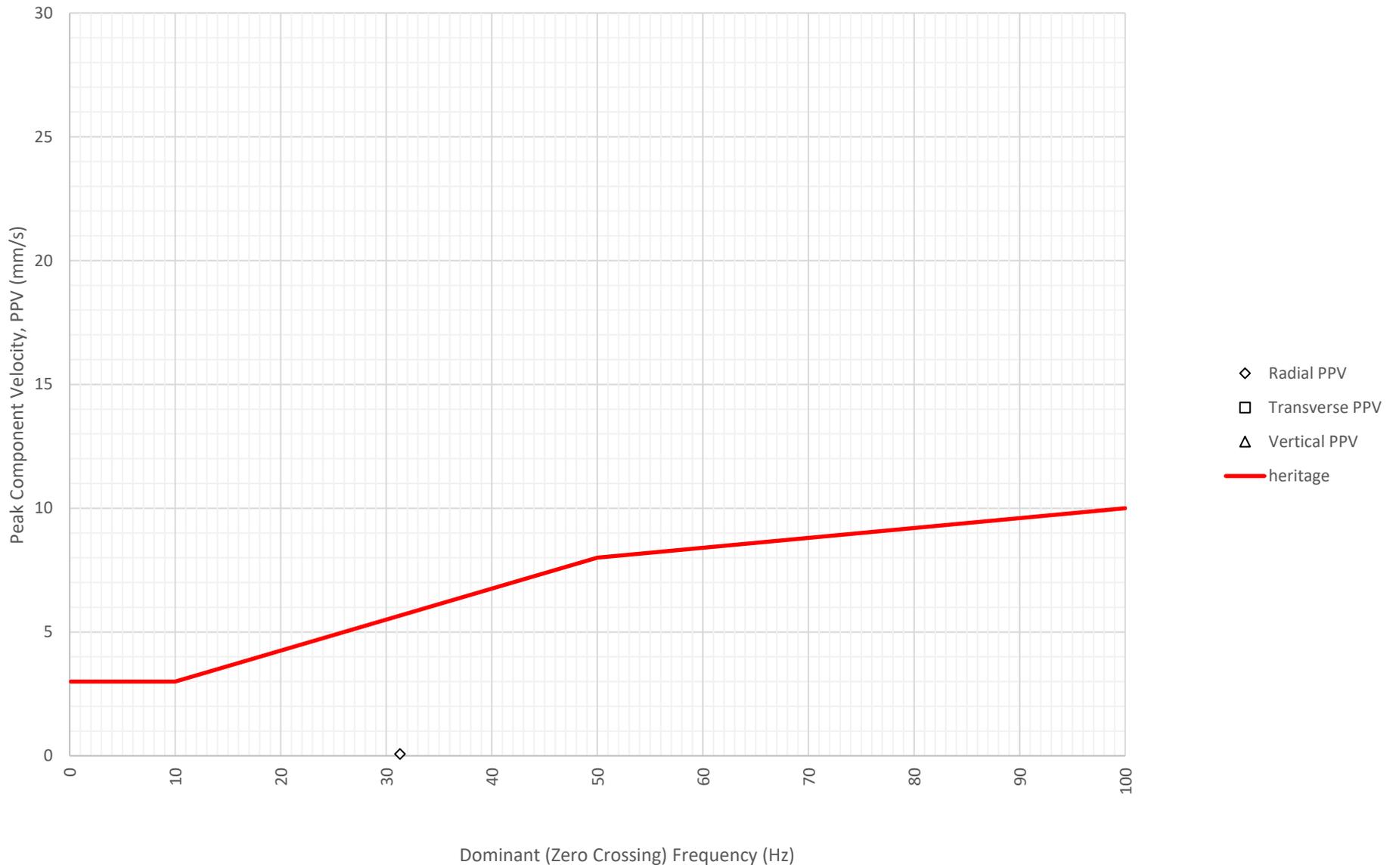
## **APPENDIX 1: DAILY GRAPHS M7713/M7427 HERITAGE (FRONT)**

Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 14-11-2022

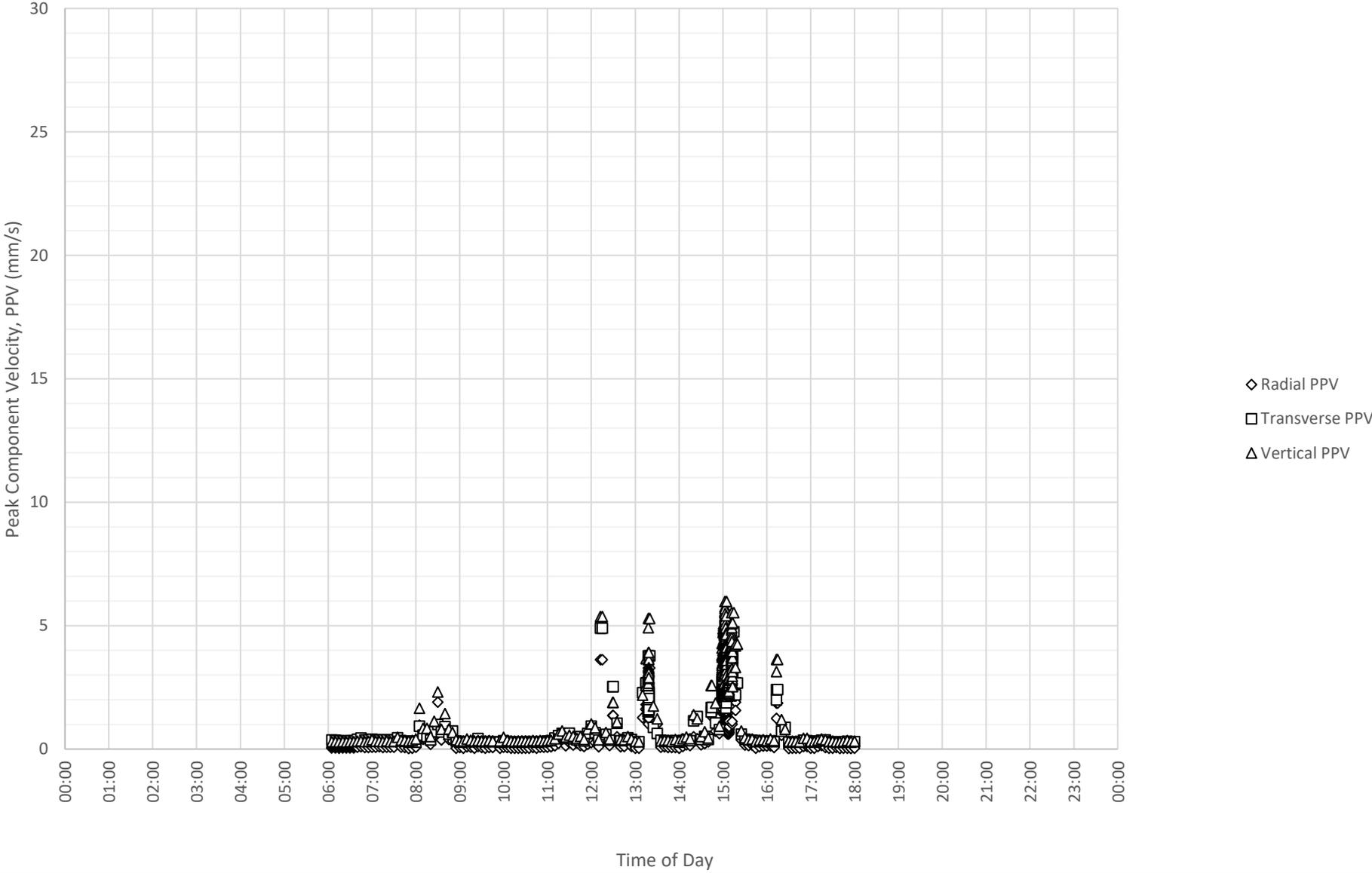


Time of Day

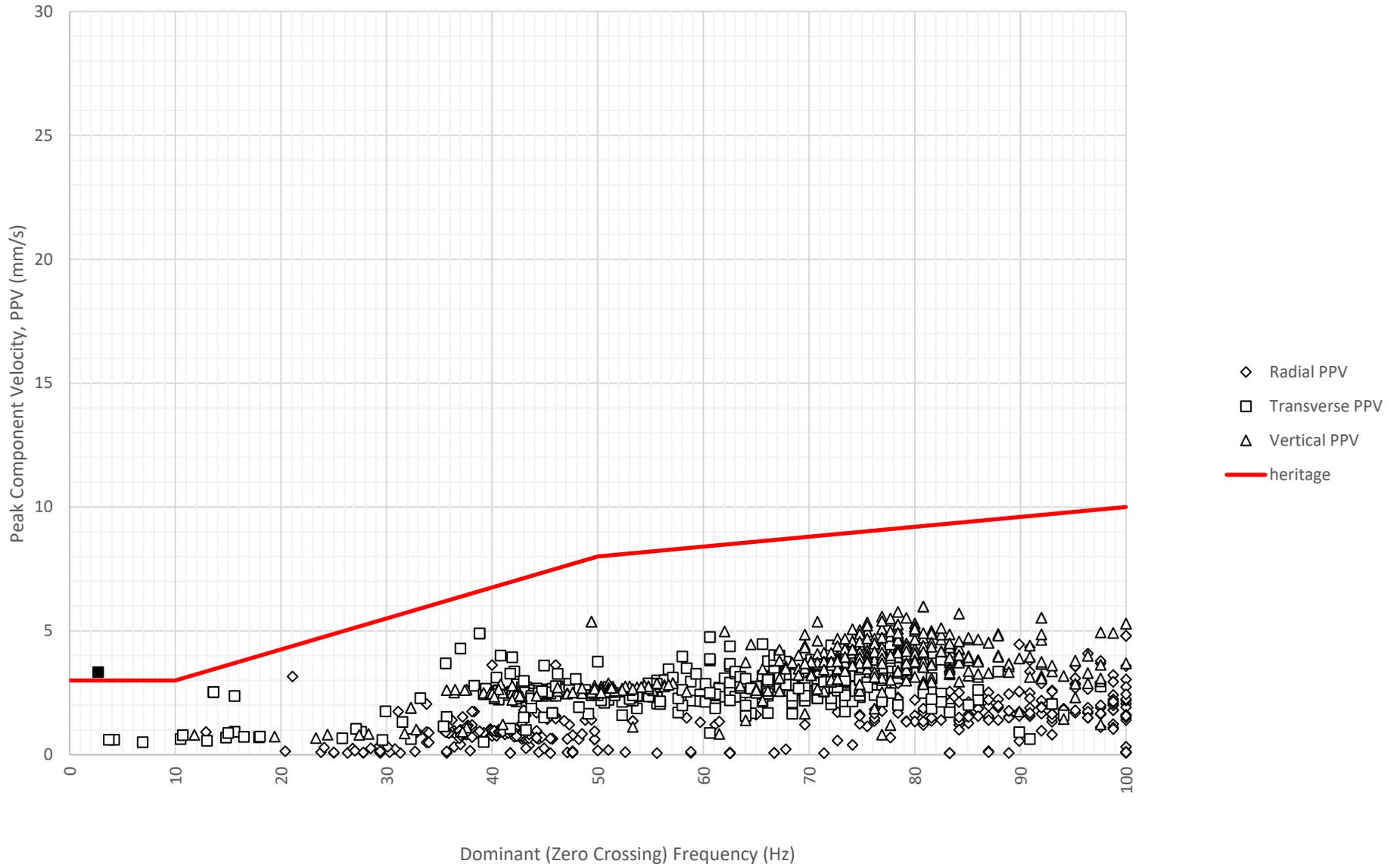
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 14-11-2022



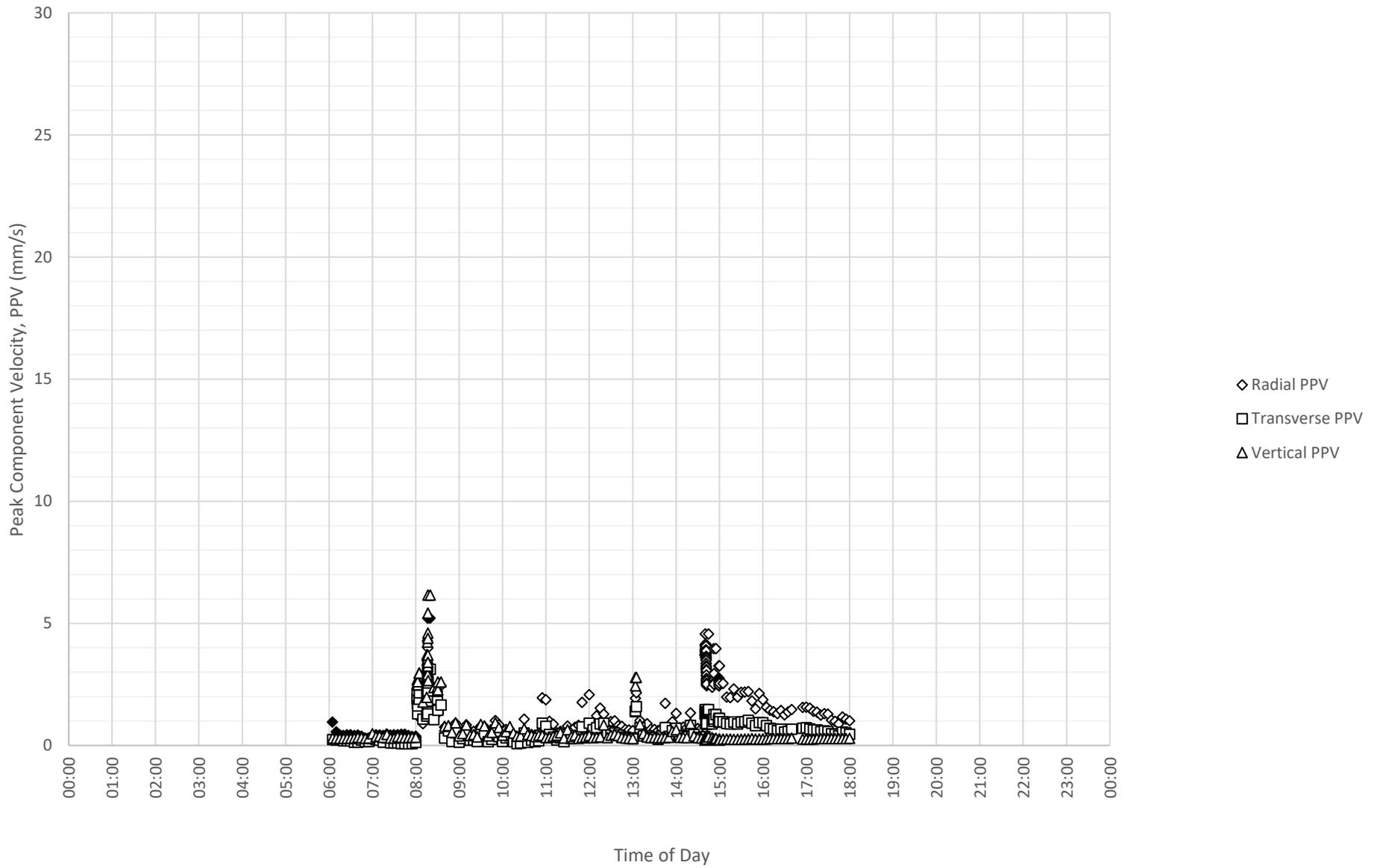
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 15-11-2022



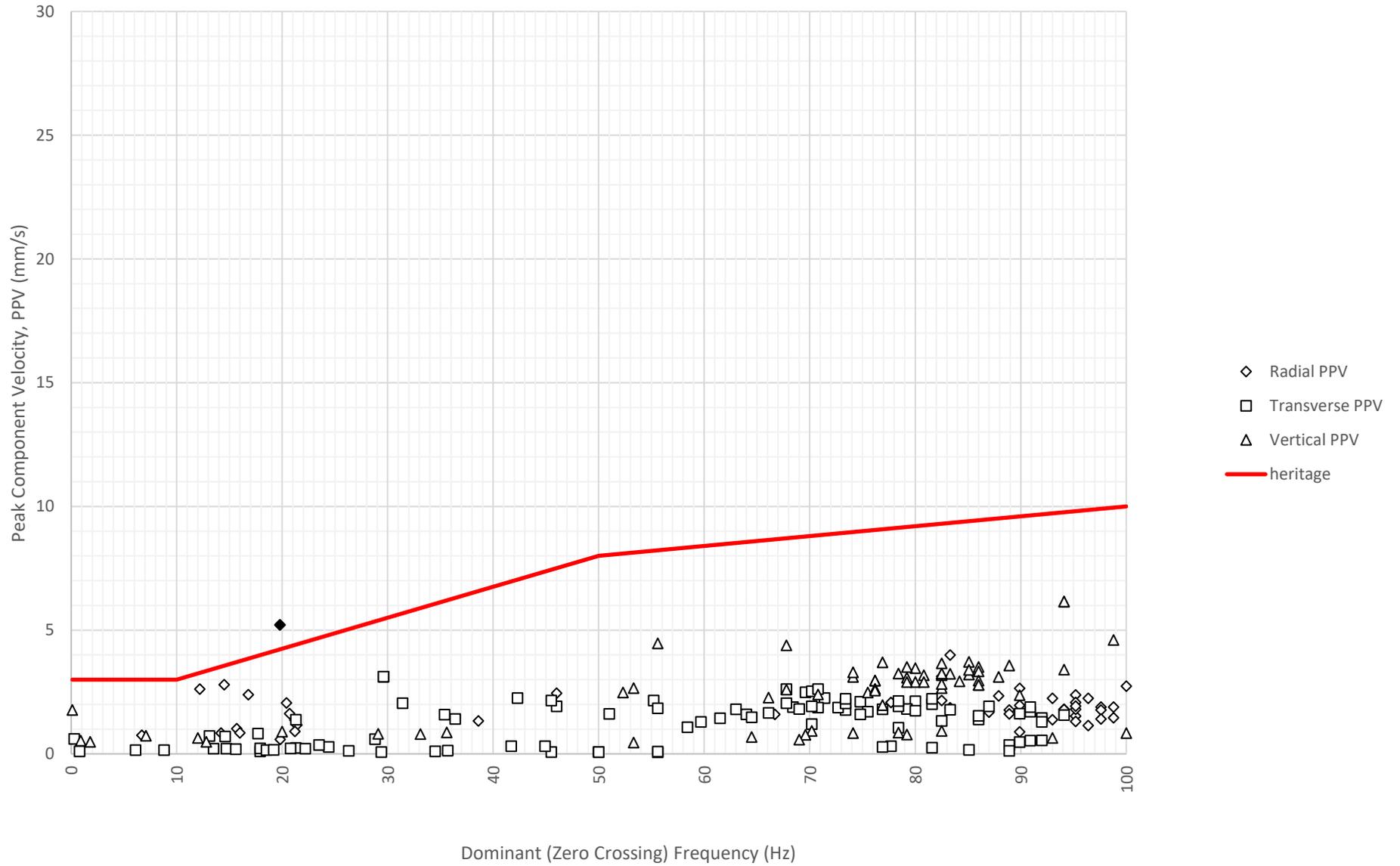
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 15-11-2022



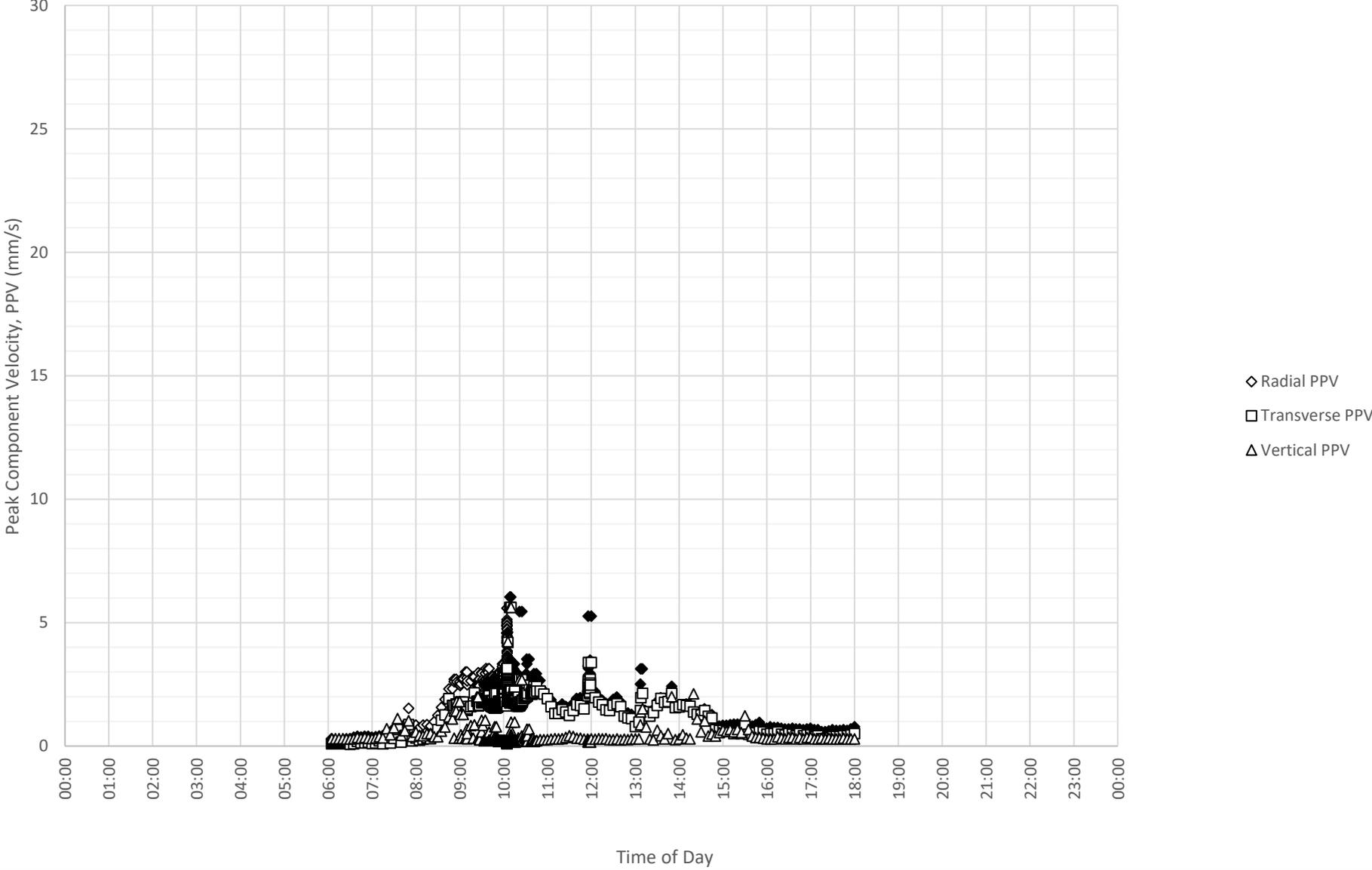
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 16-11-2022



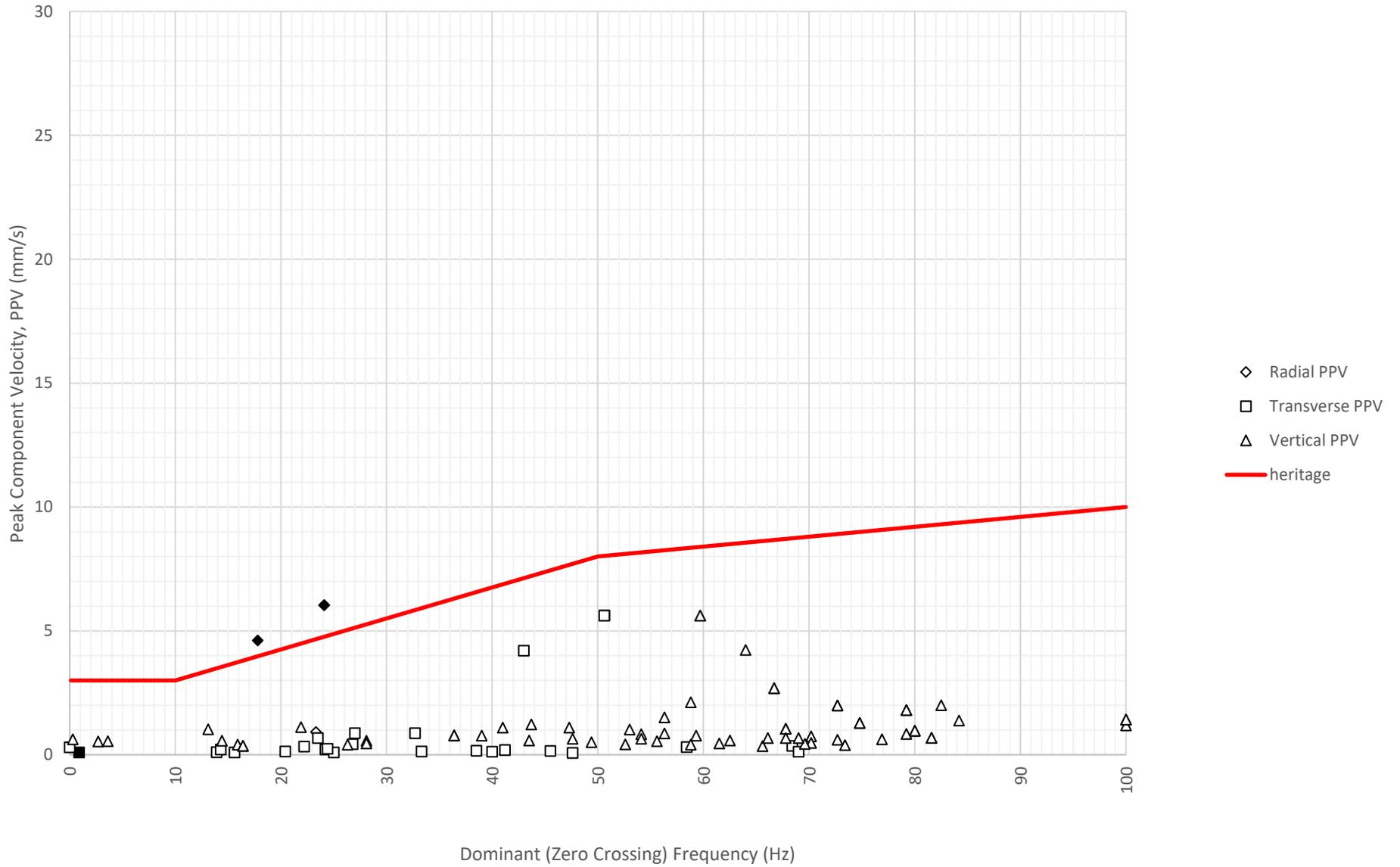
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 16-11-2022



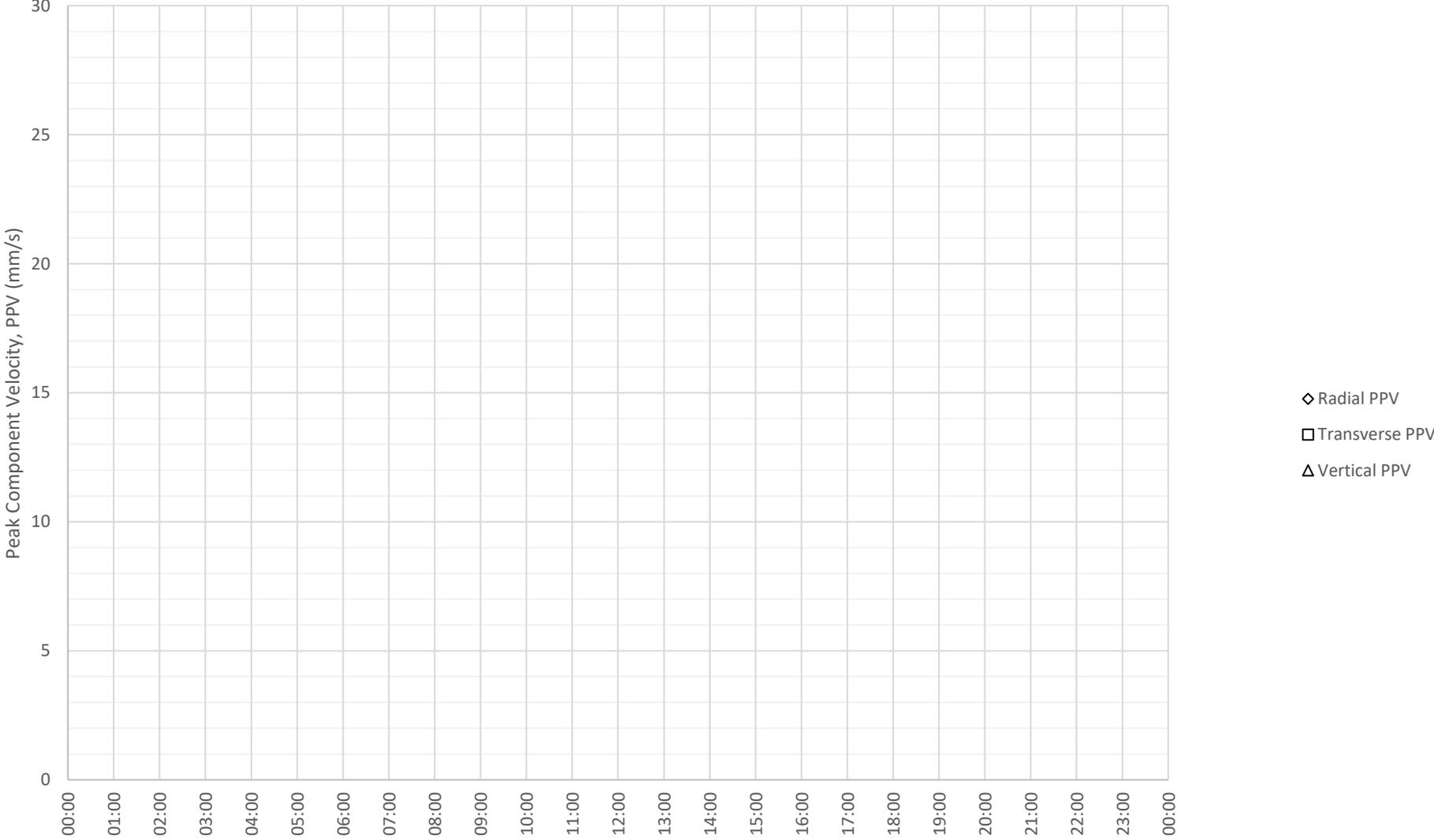
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 17-11-2022



Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 17-11-2022

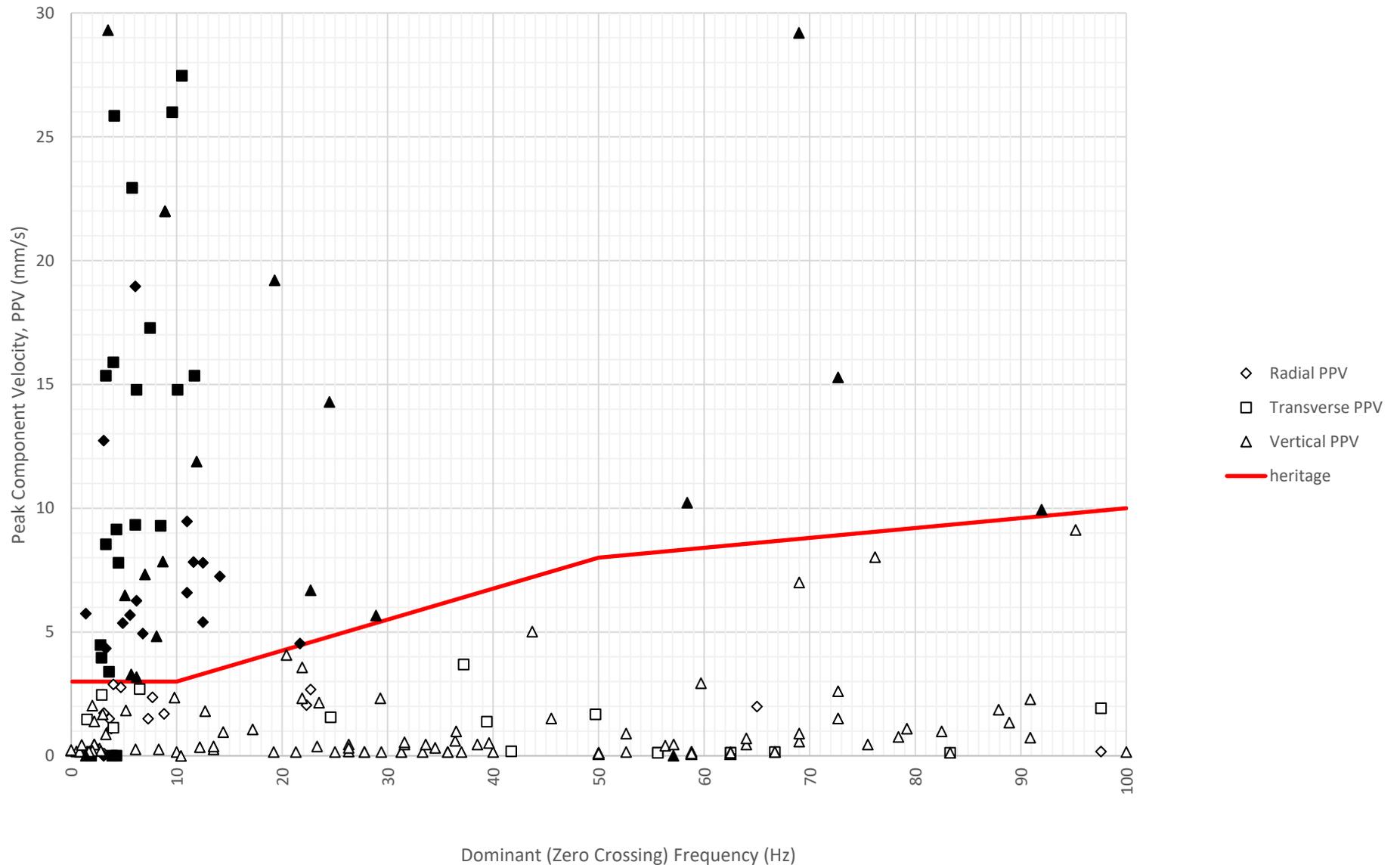


Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 18-11-2022

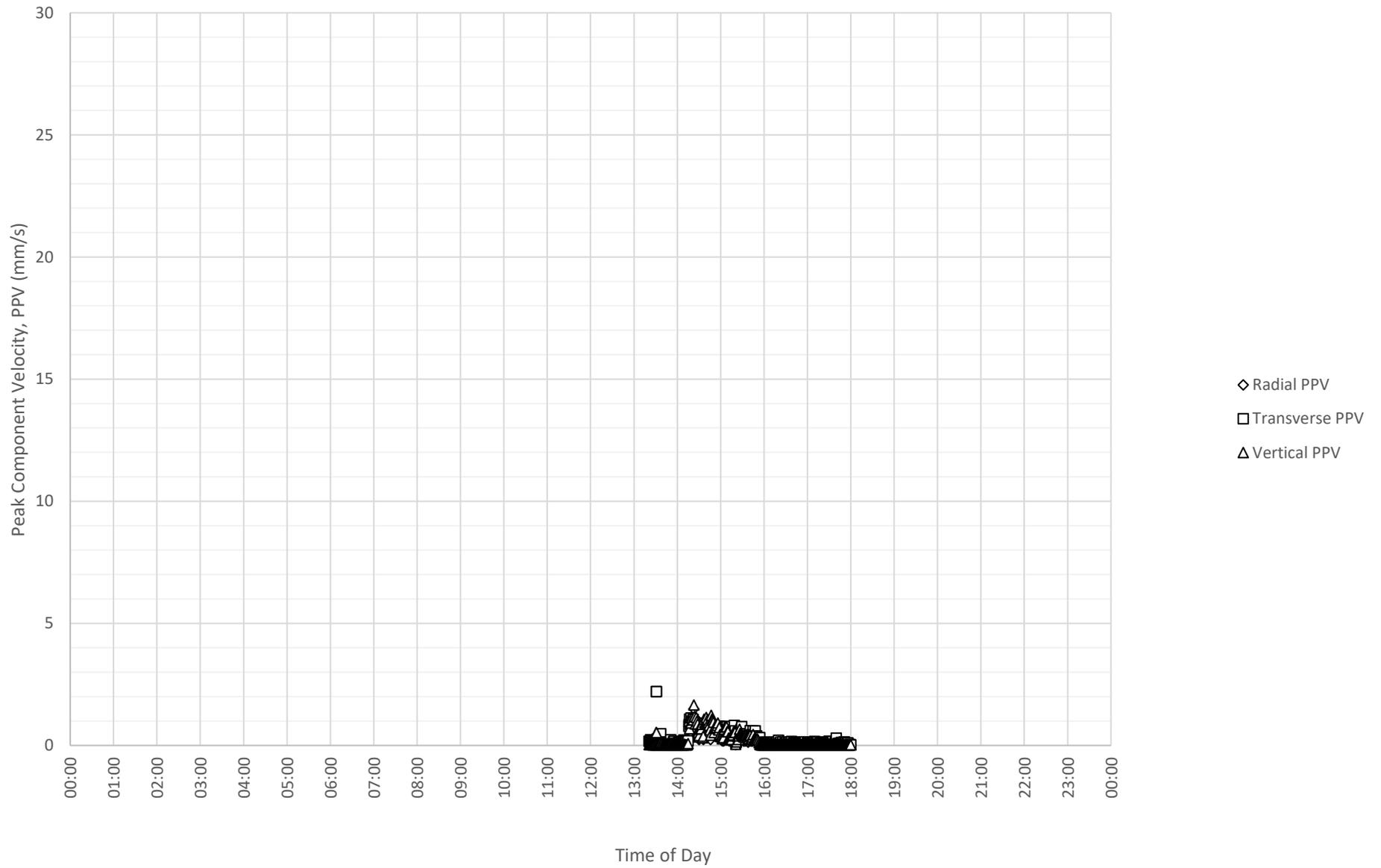


Time of Day

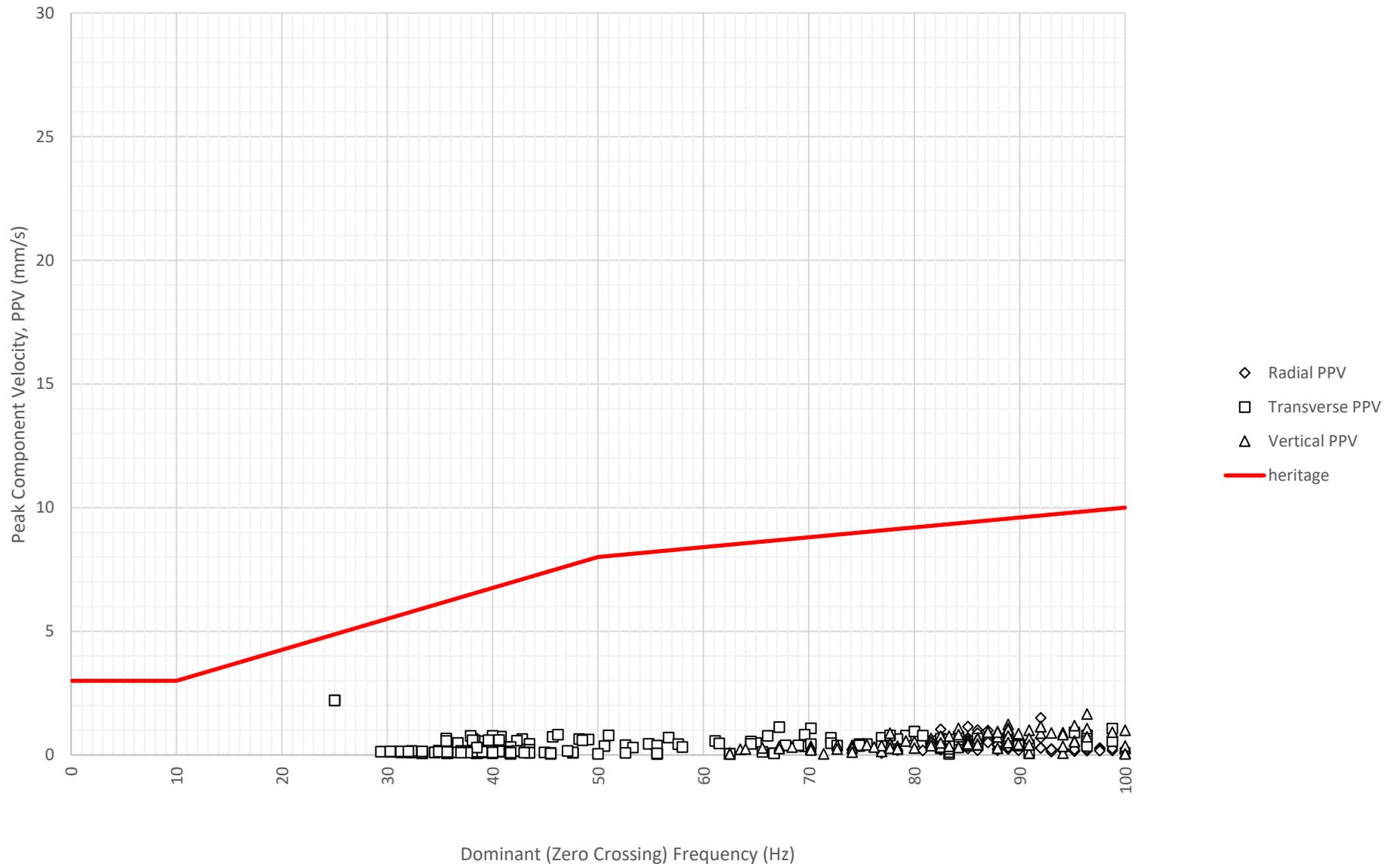
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 18-11-2022



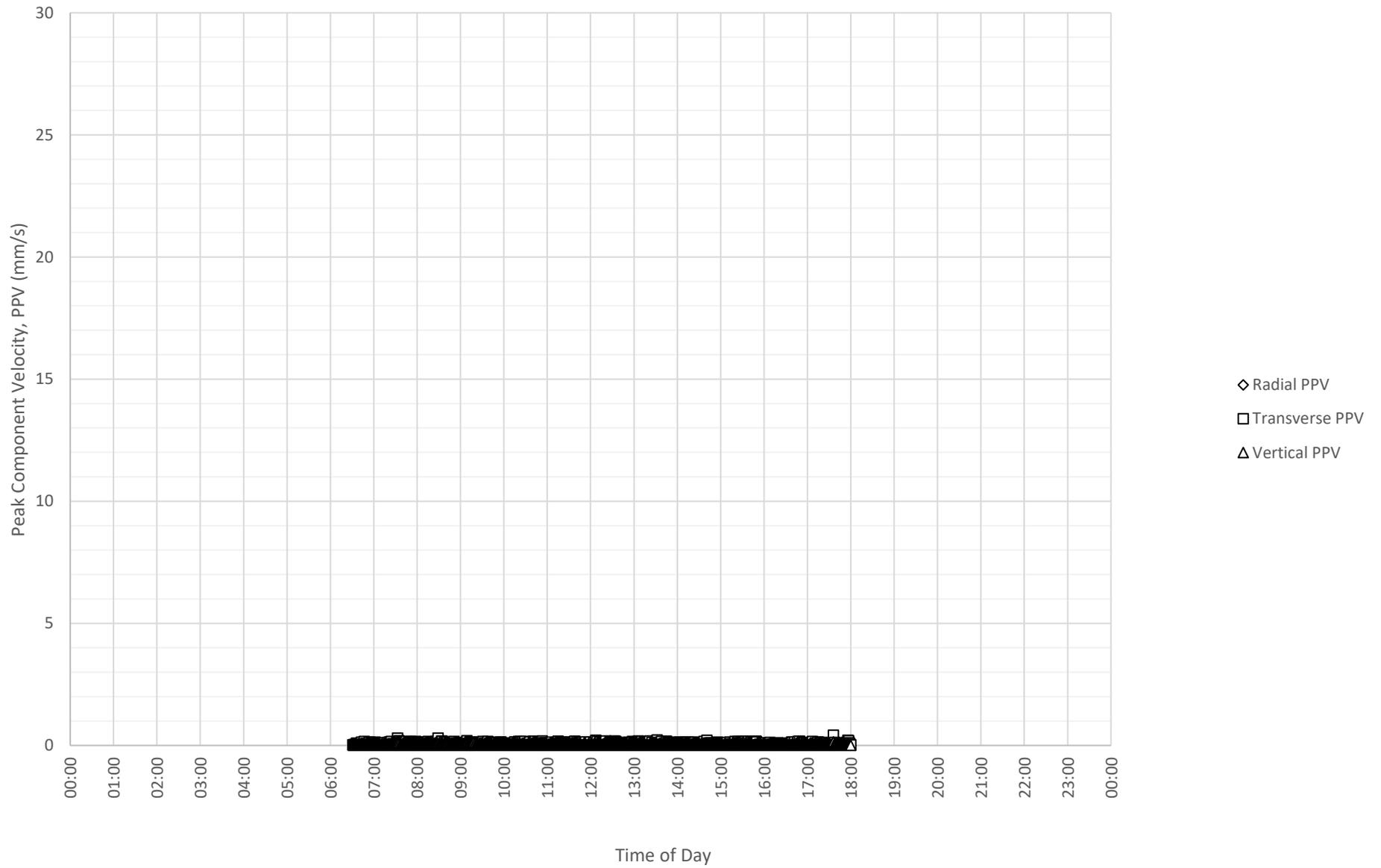
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 7-12-2022



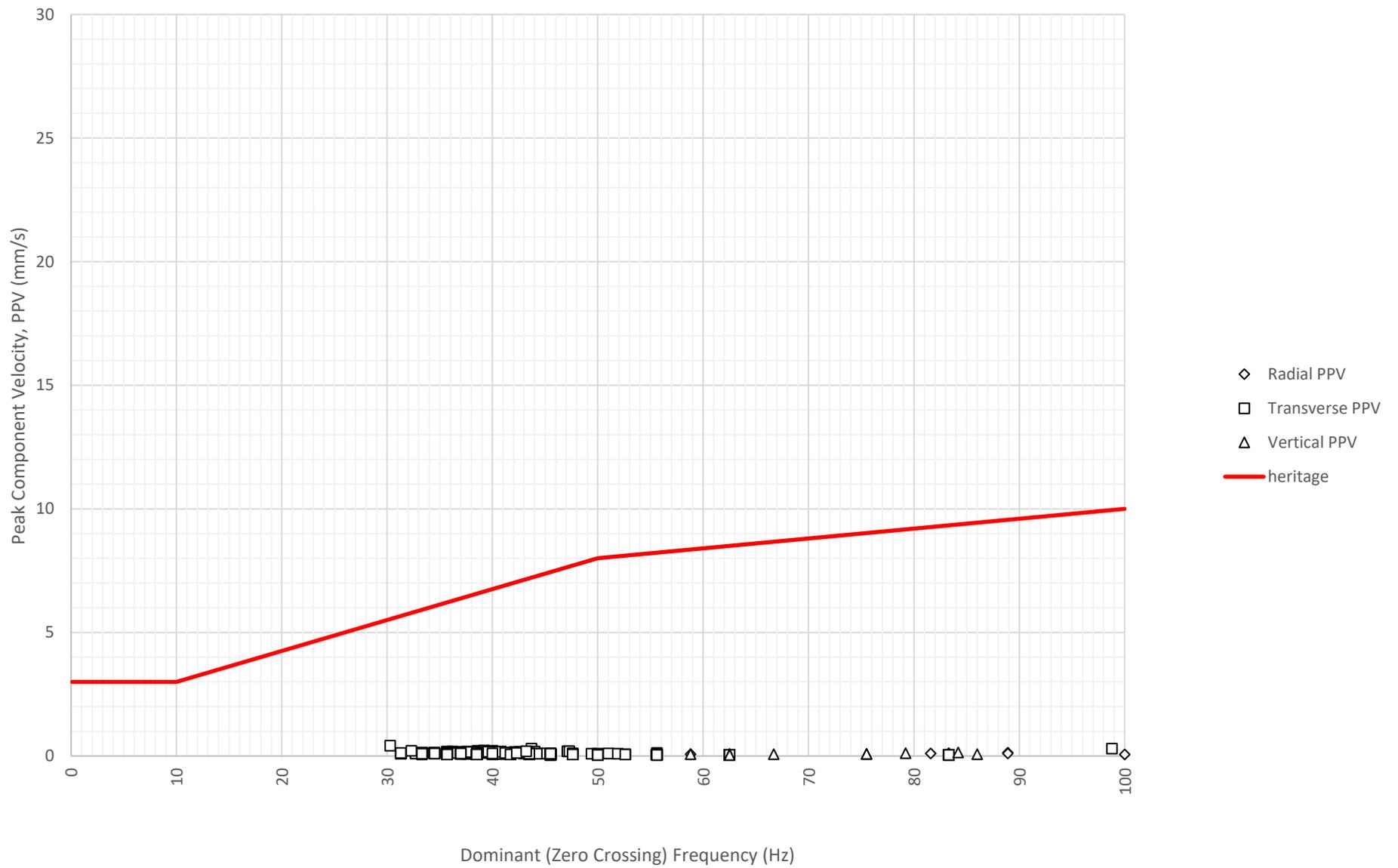
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 7-12-2022



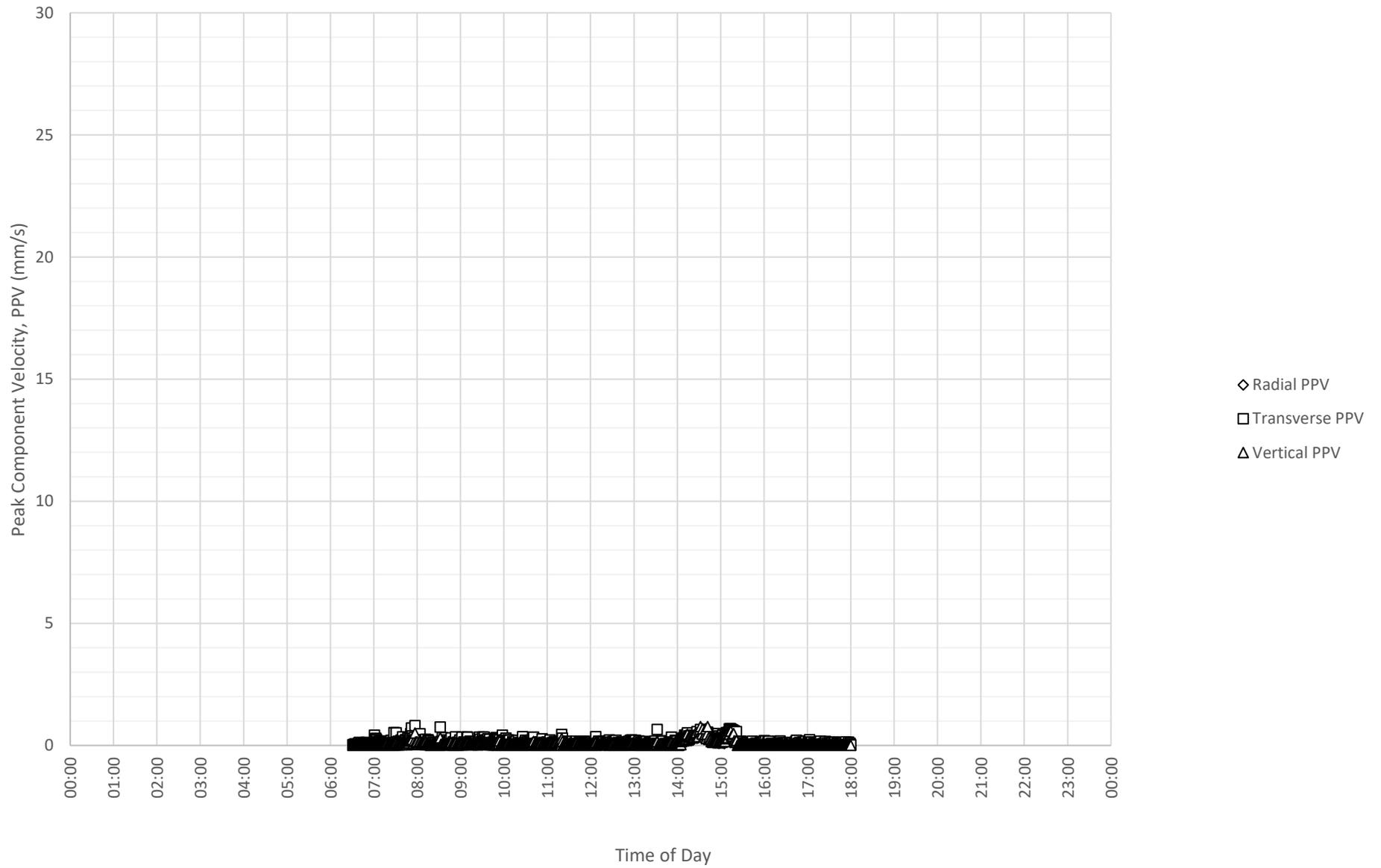
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 8-12-2022



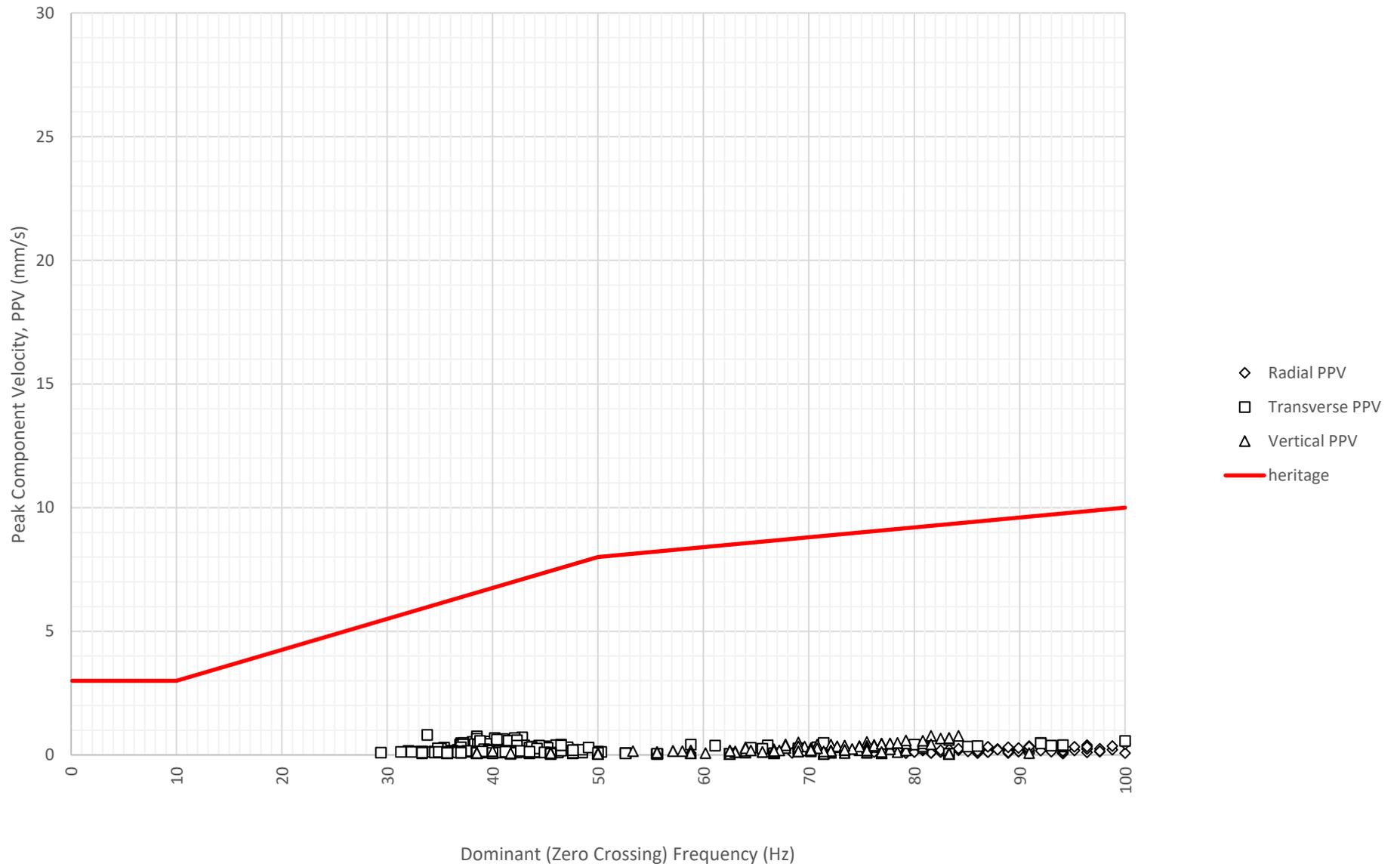
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 8-12-2022



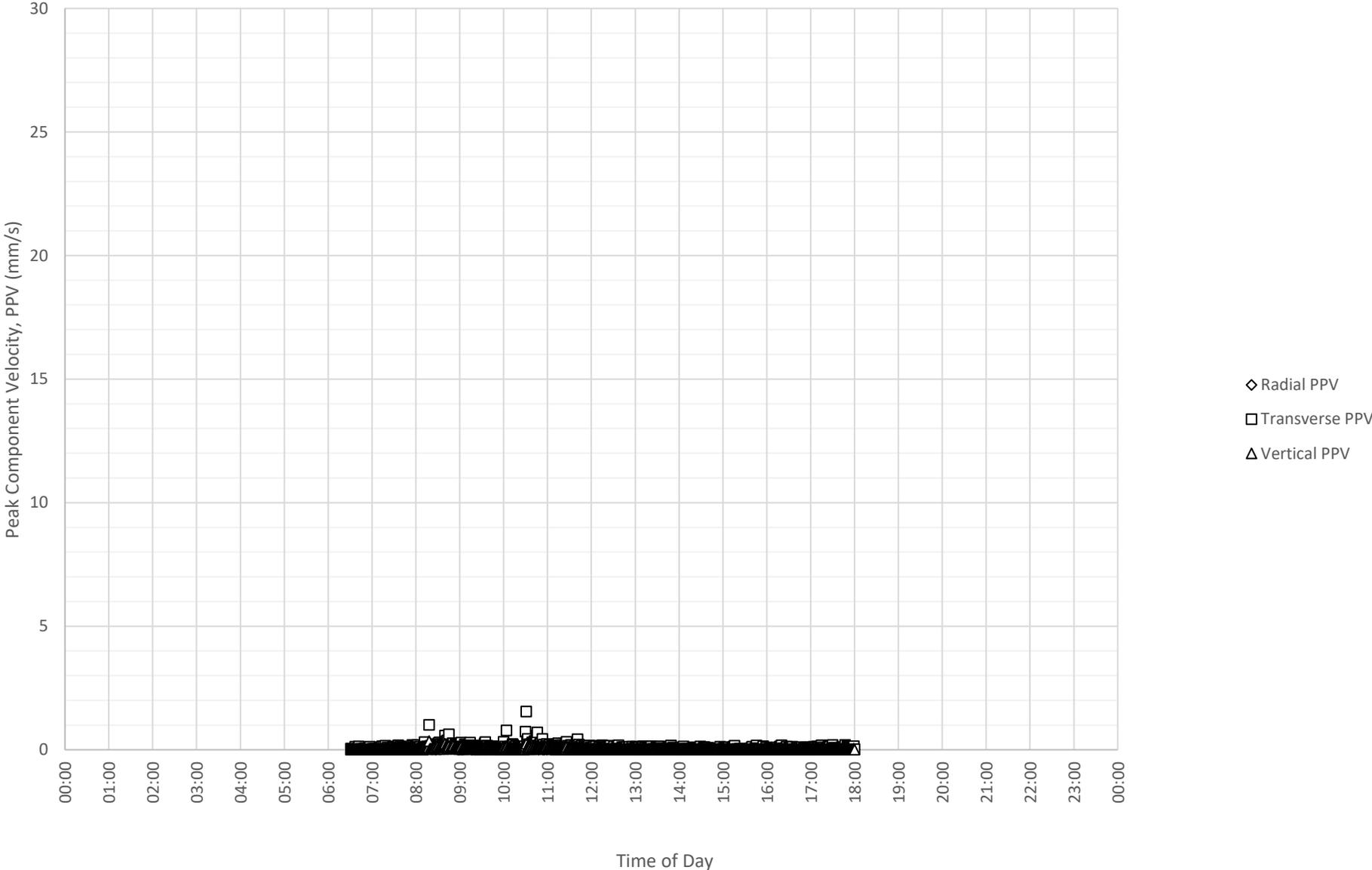
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 9-12-2022



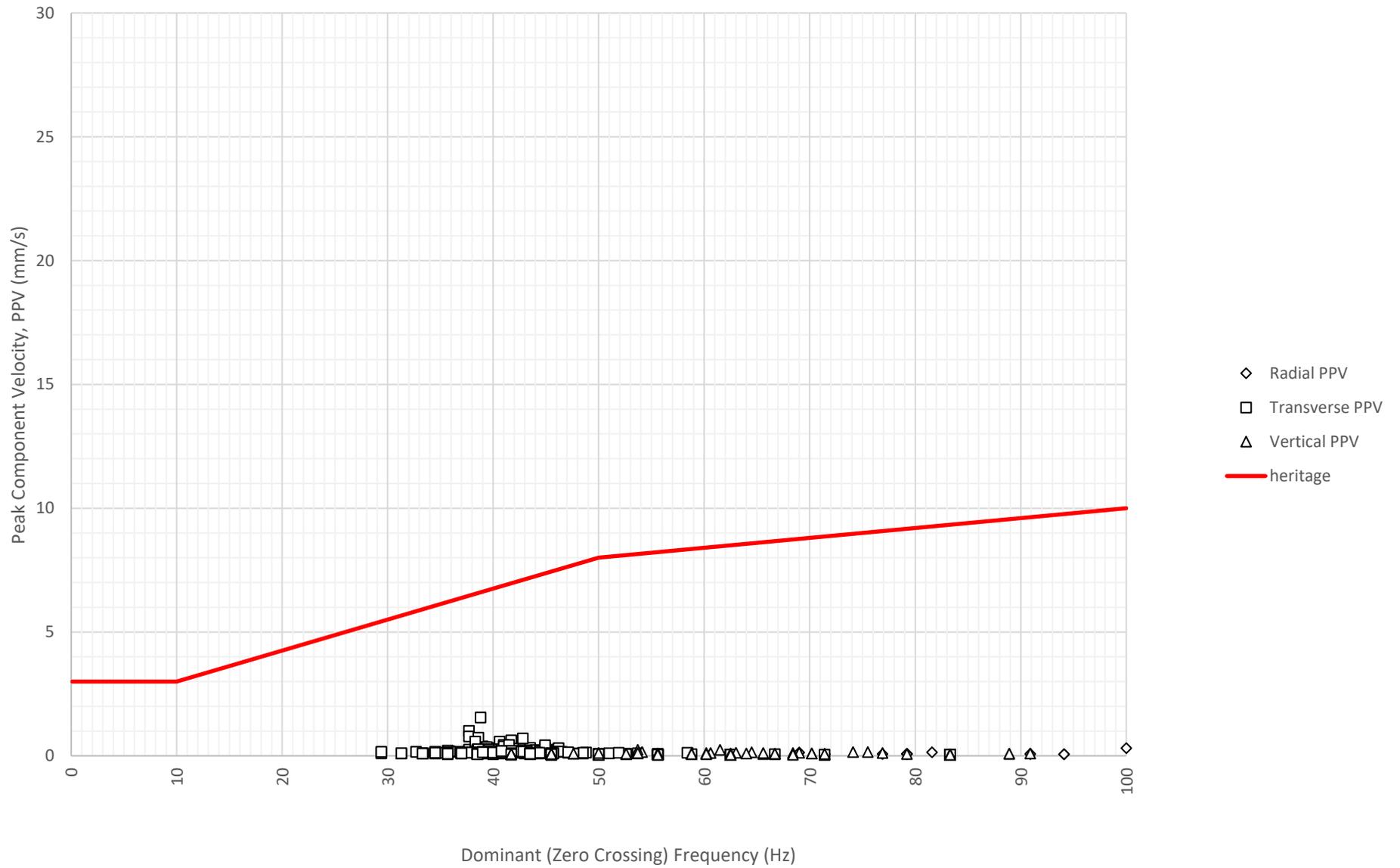
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 9-12-2022



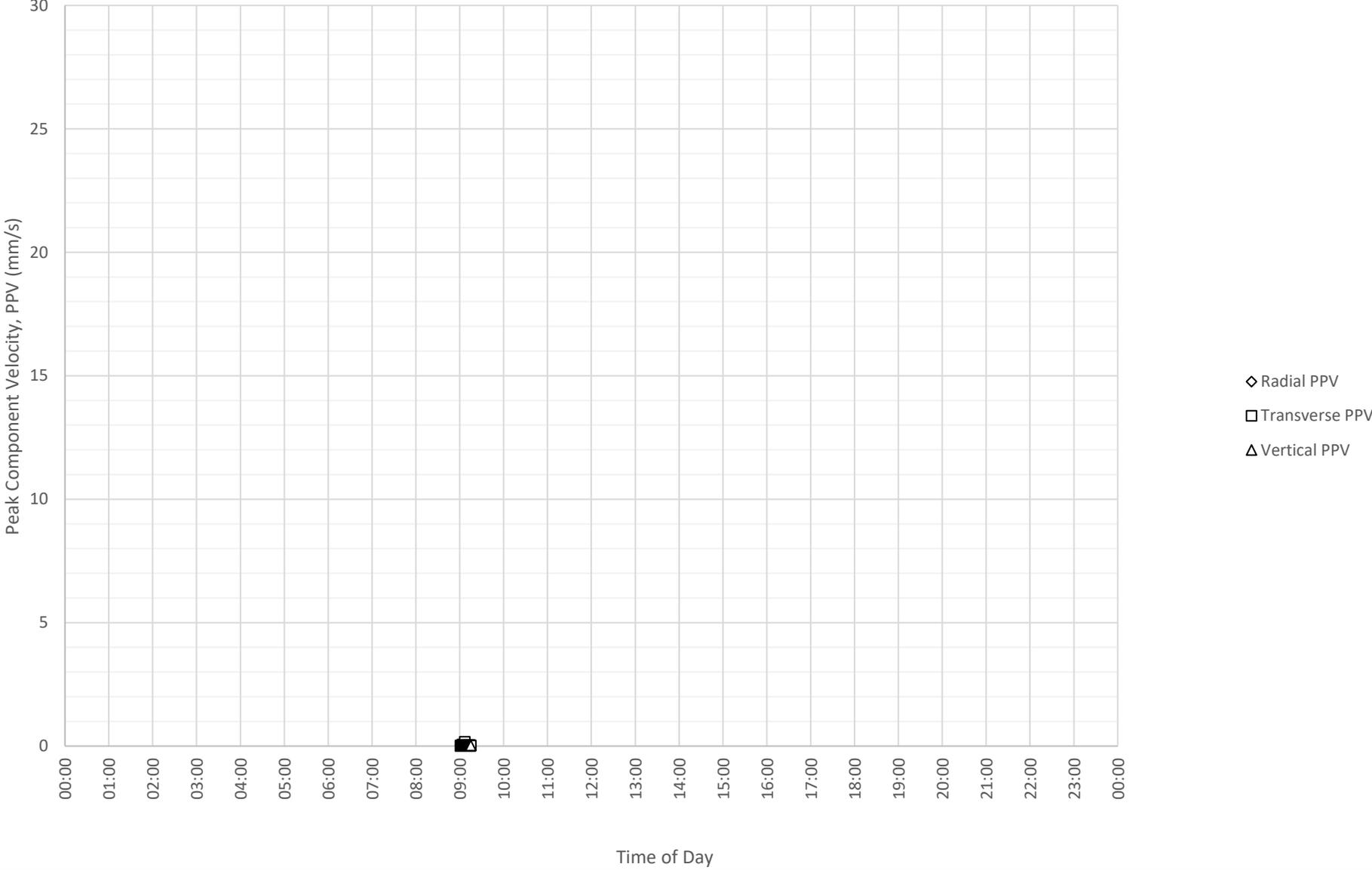
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 10-12-2022



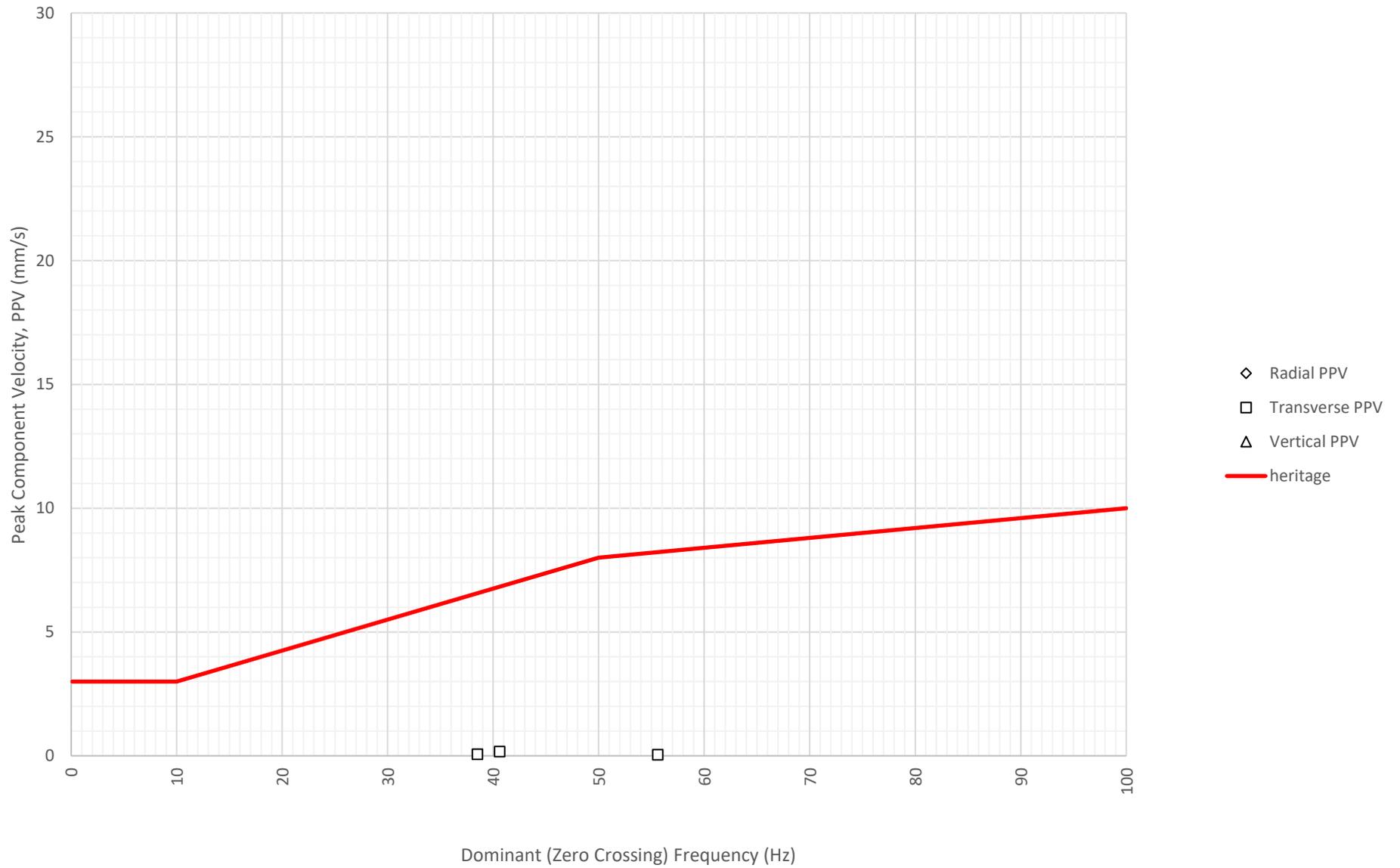
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 10-12-2022



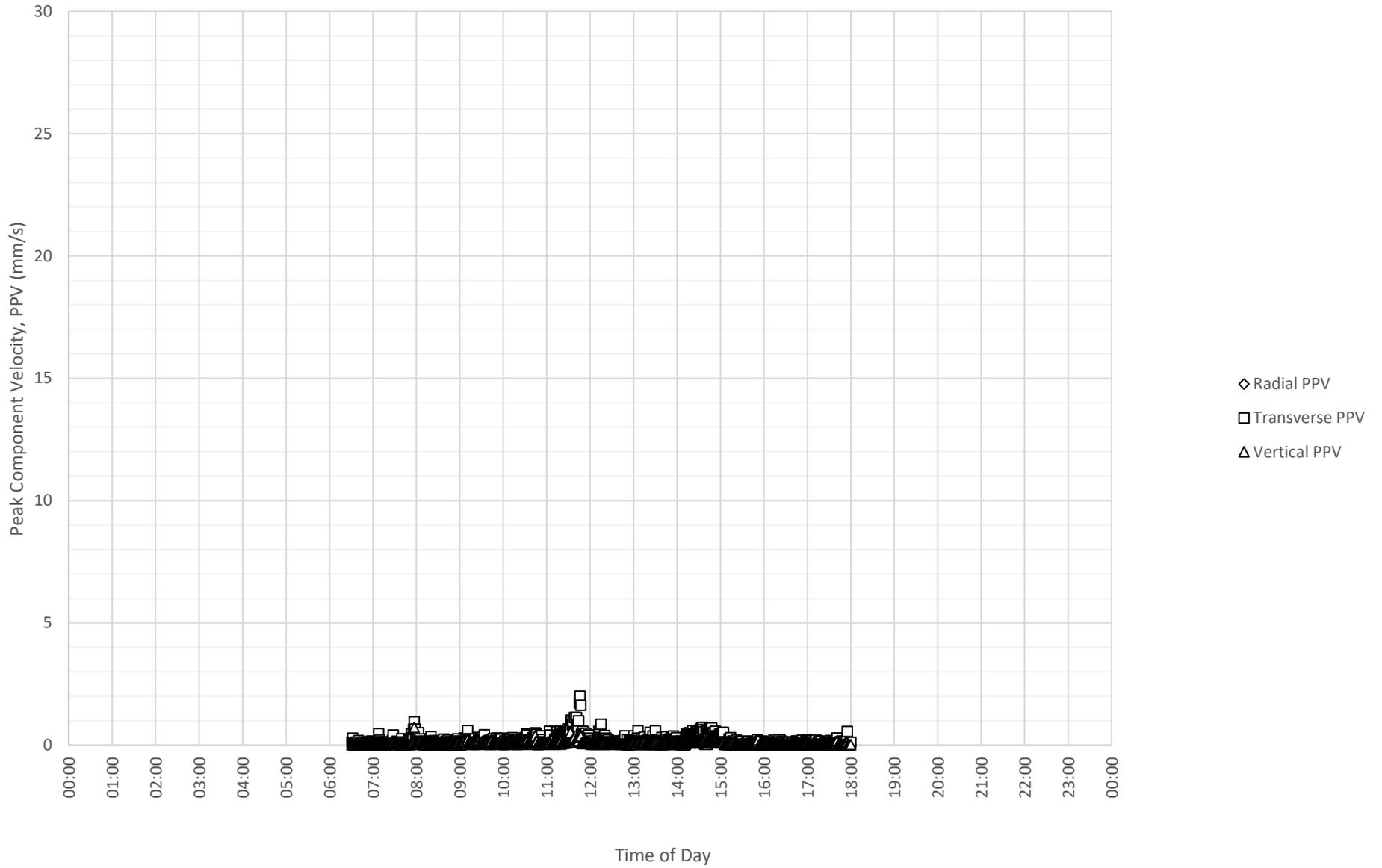
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 11-12-2022



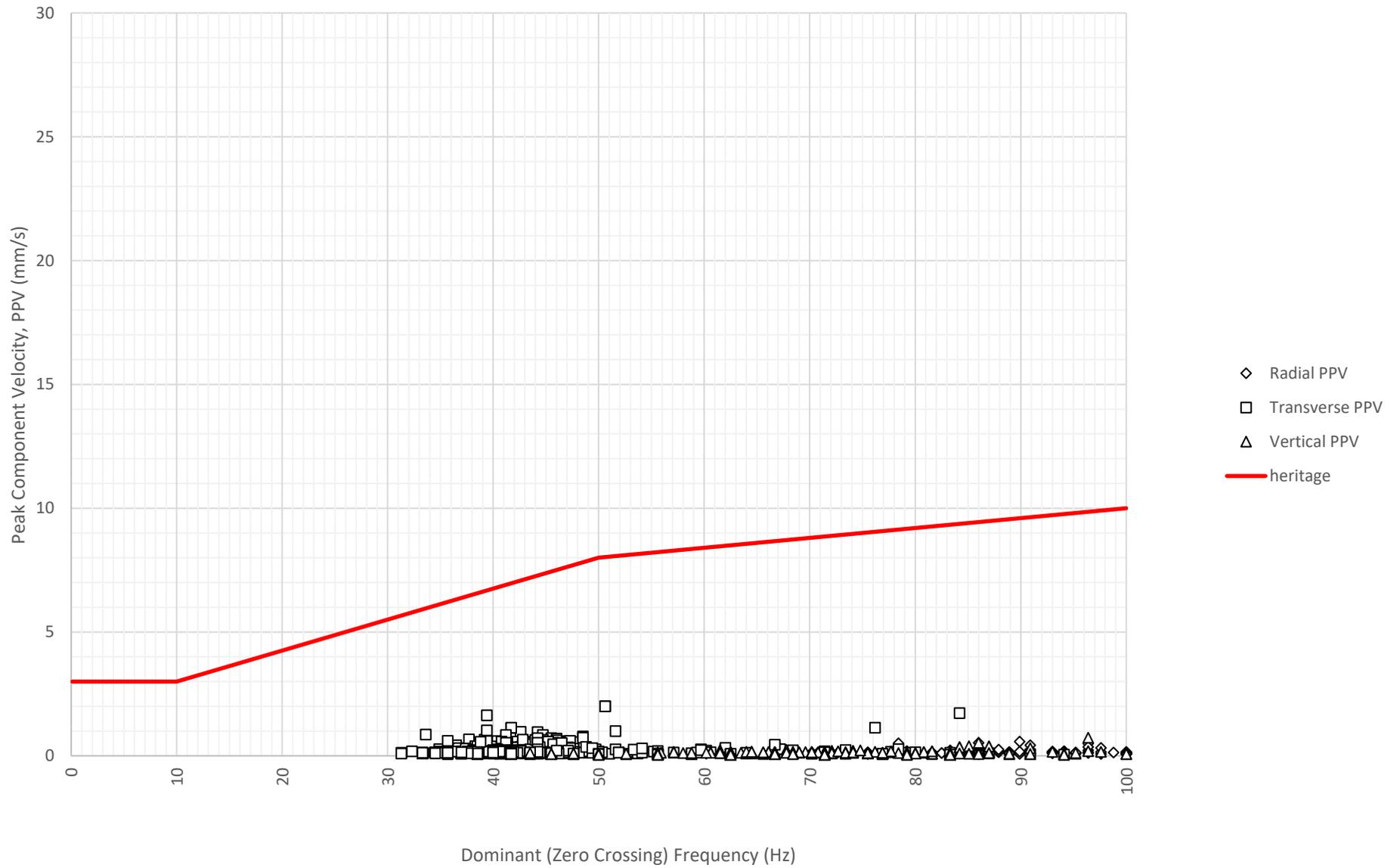
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 11-12-2022



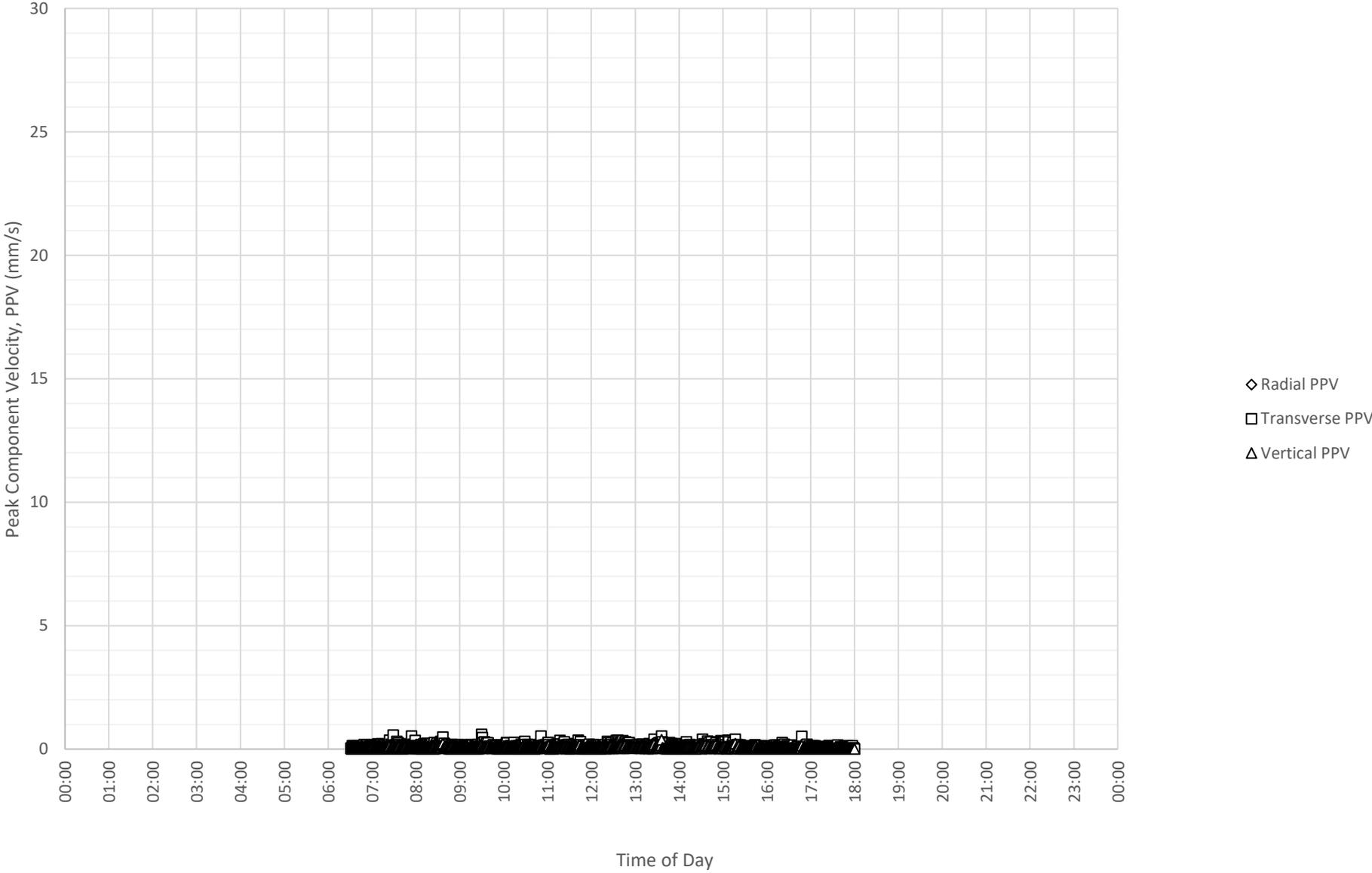
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 12-12-2022



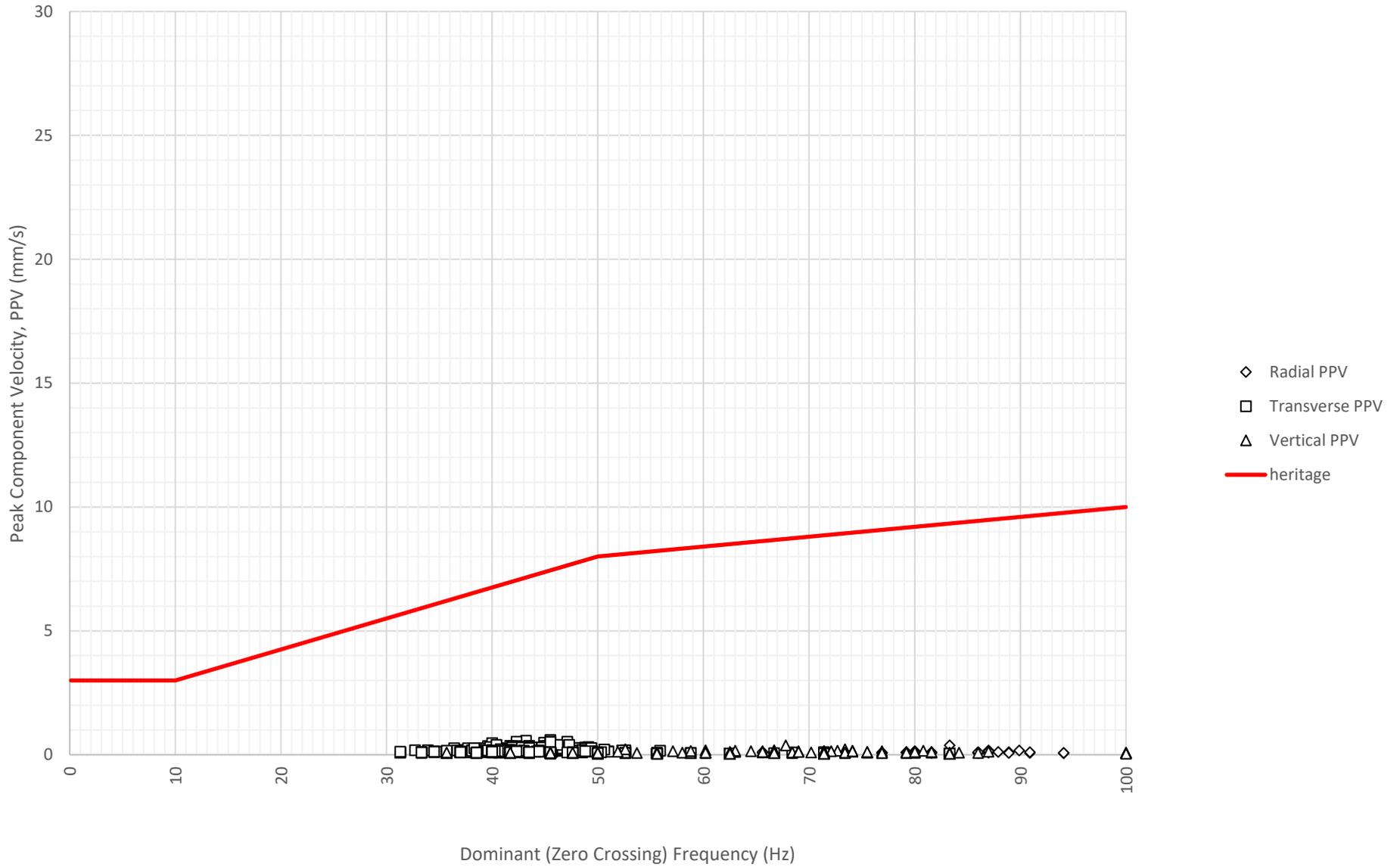
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 12-12-2022



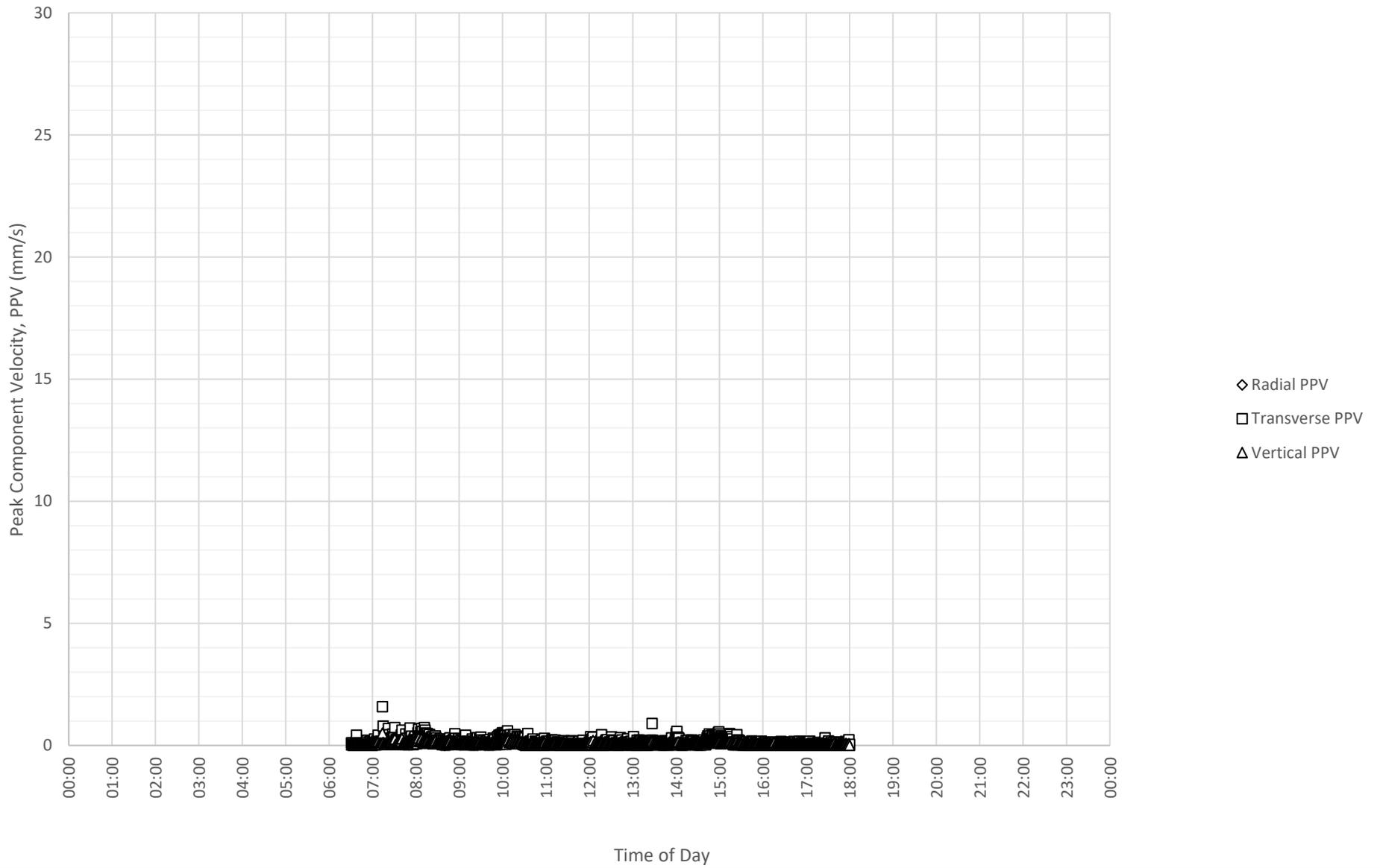
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 13-12-2022



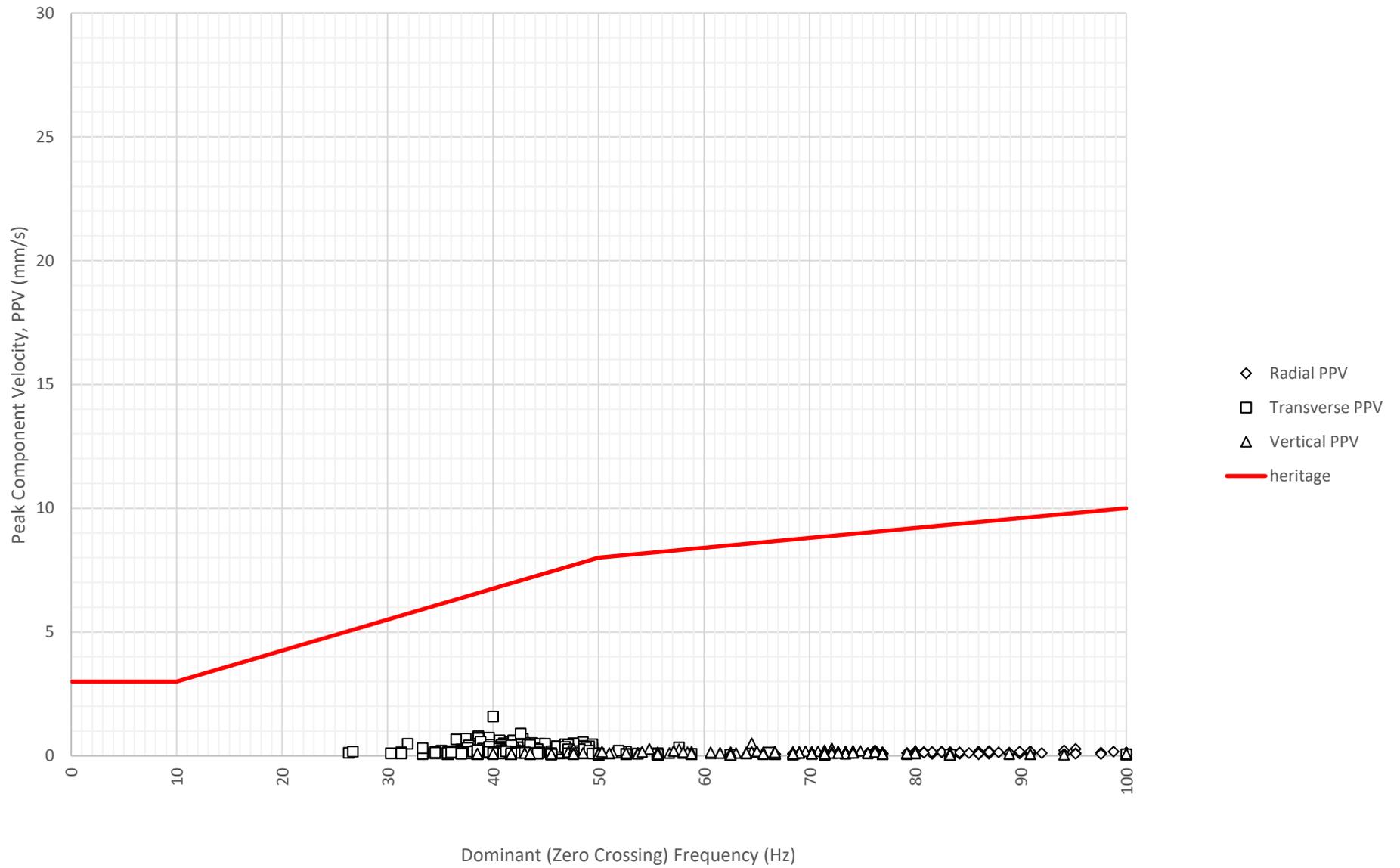
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 13-12-2022



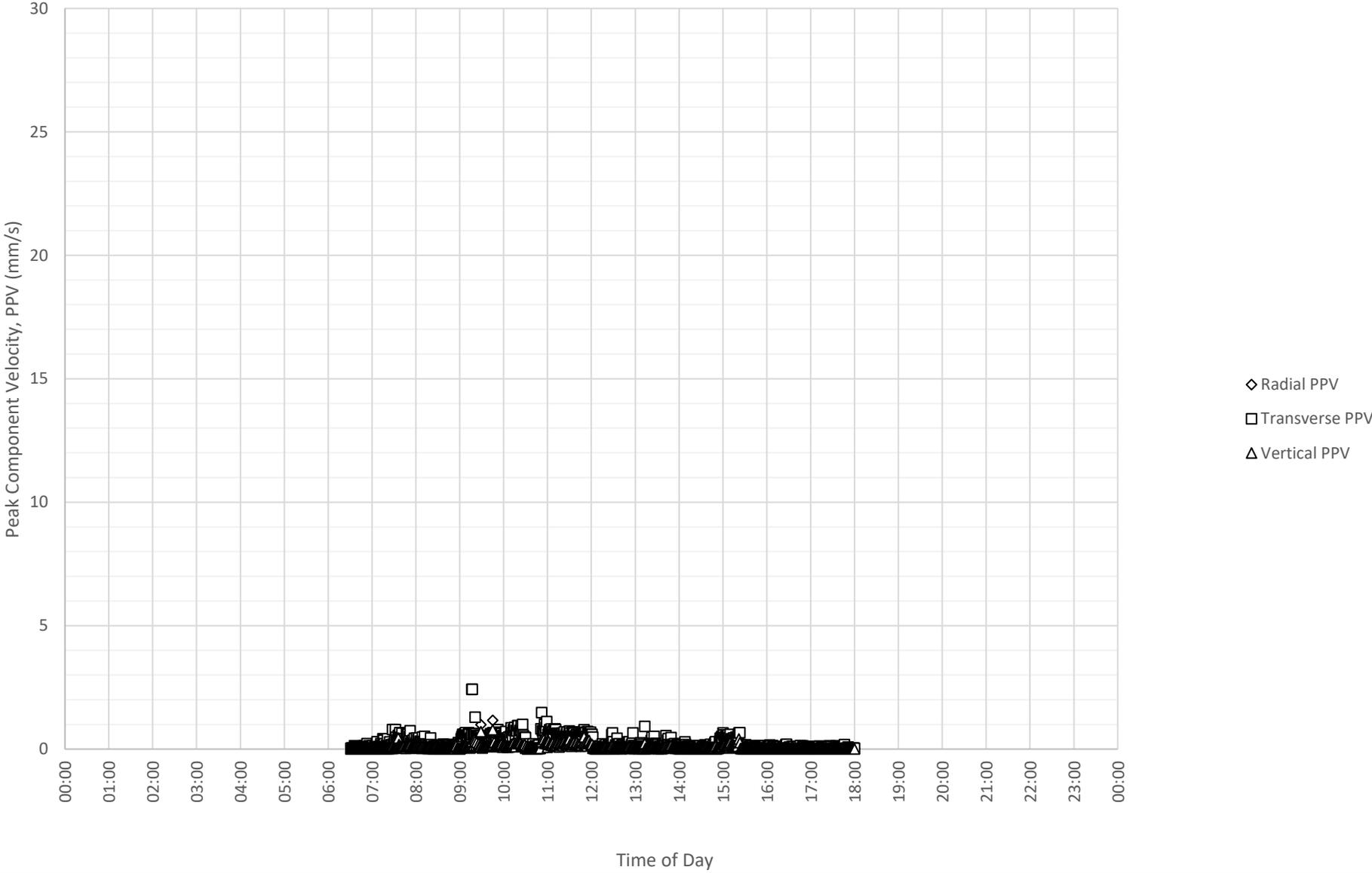
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 14-12-2022



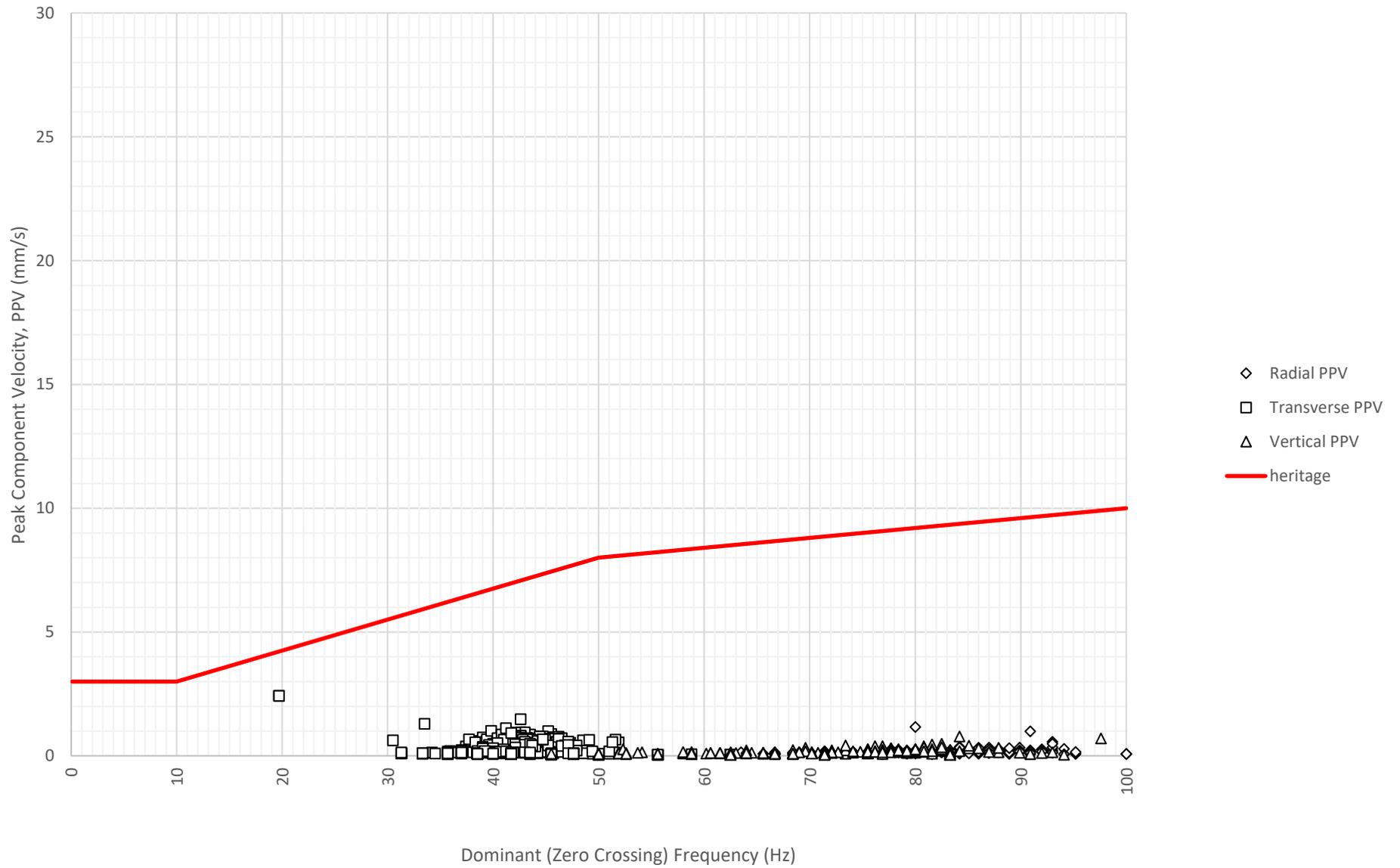
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 14-12-2022



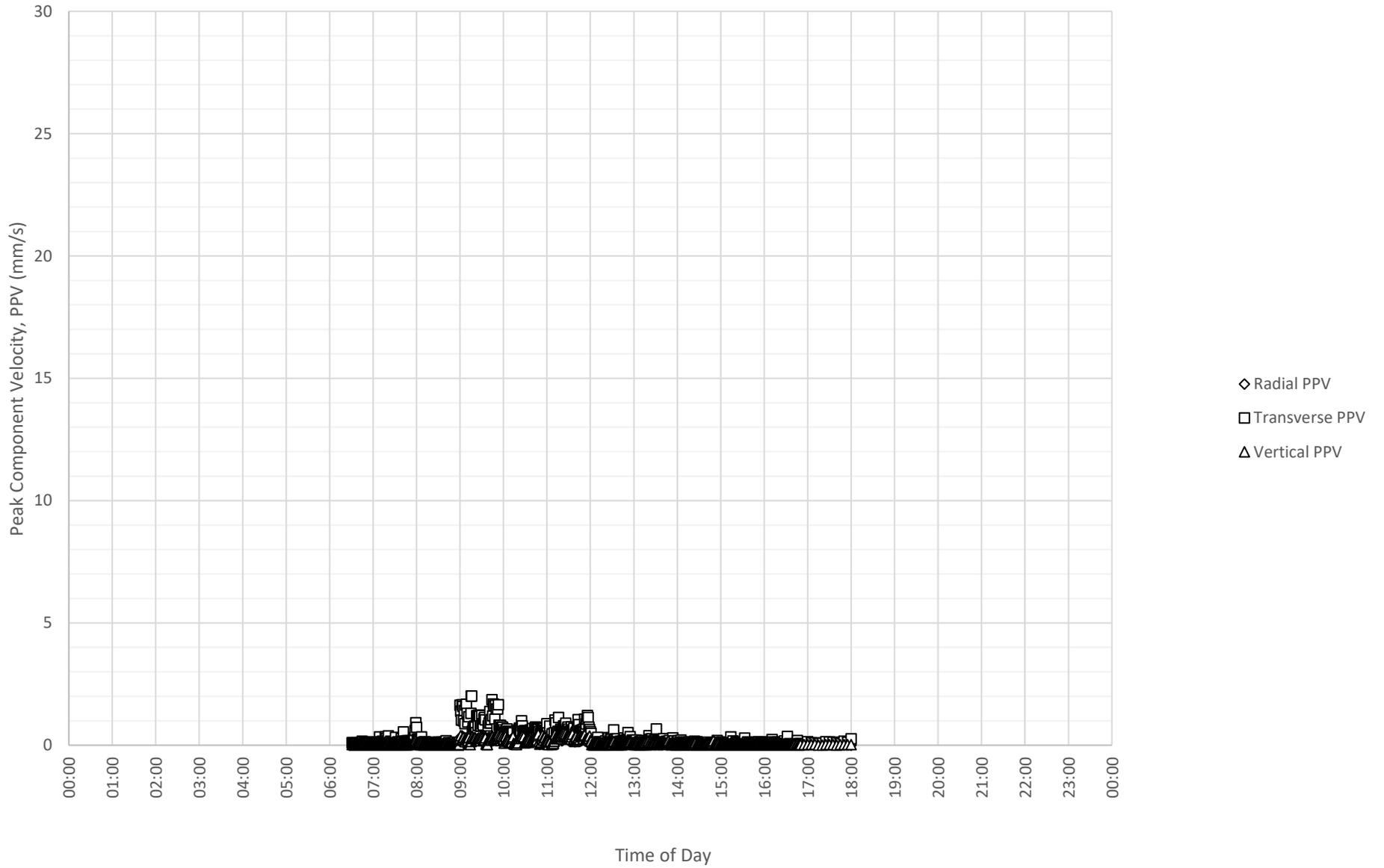
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 15-12-2022



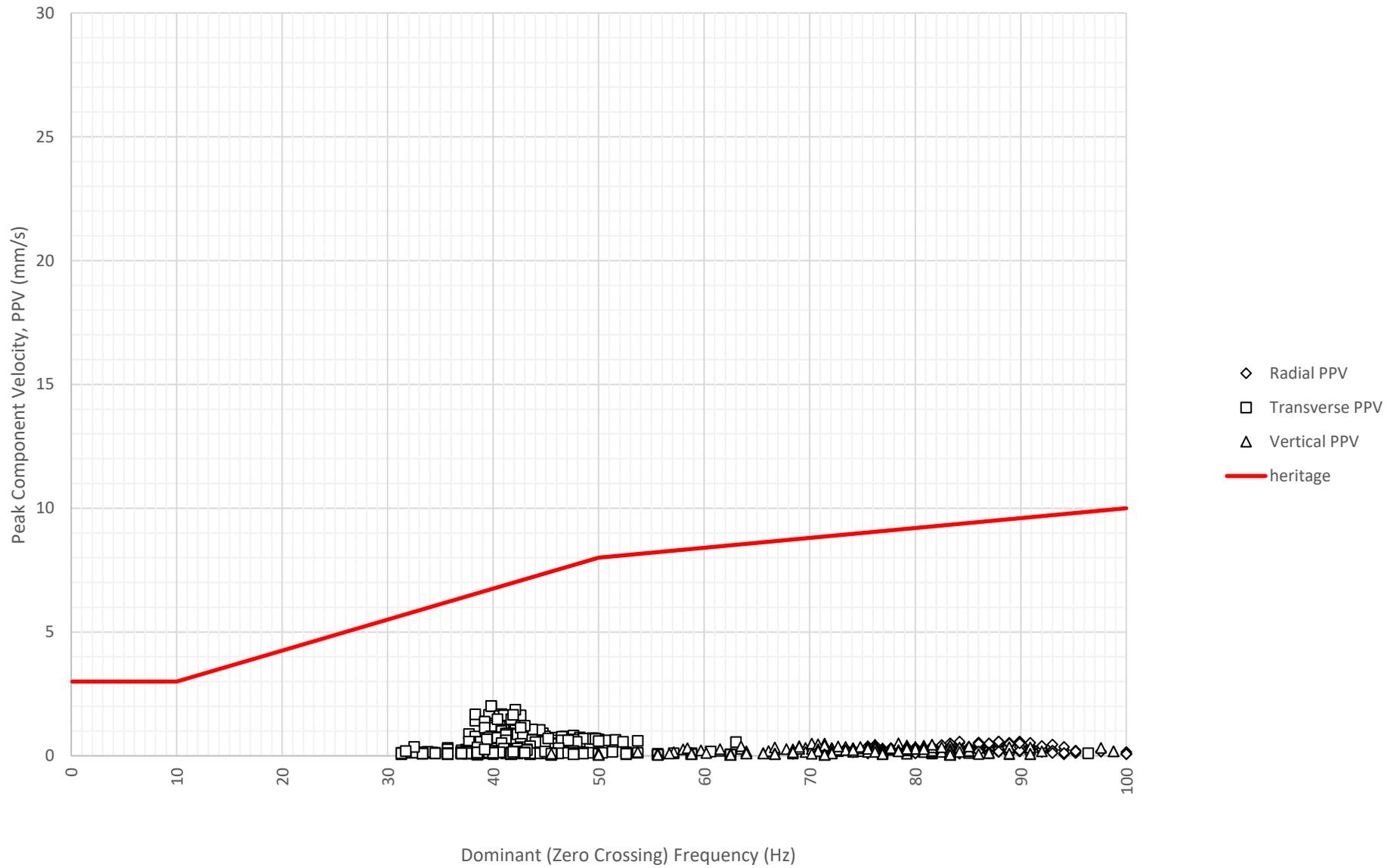
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 15-12-2022



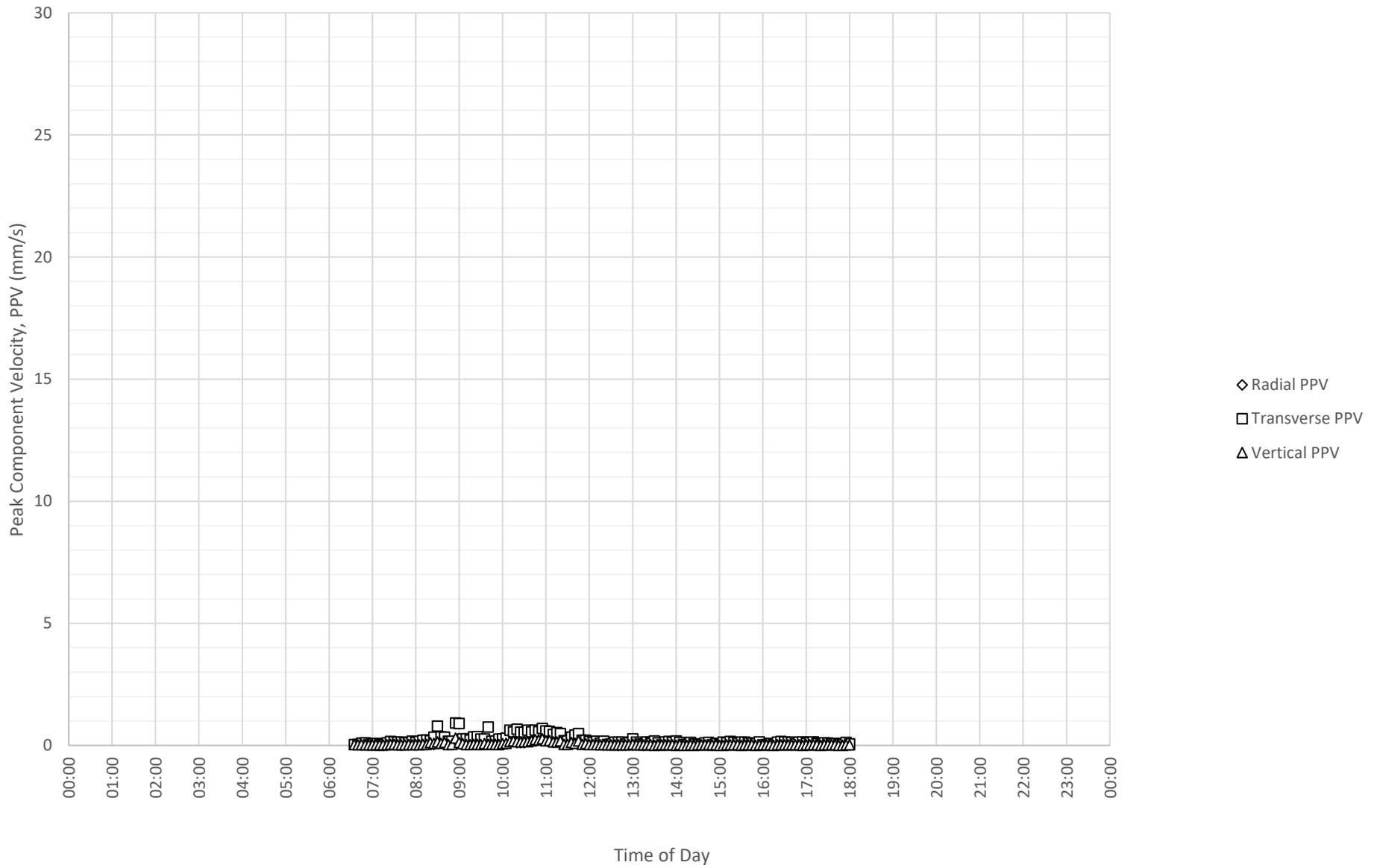
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 16-12-2022



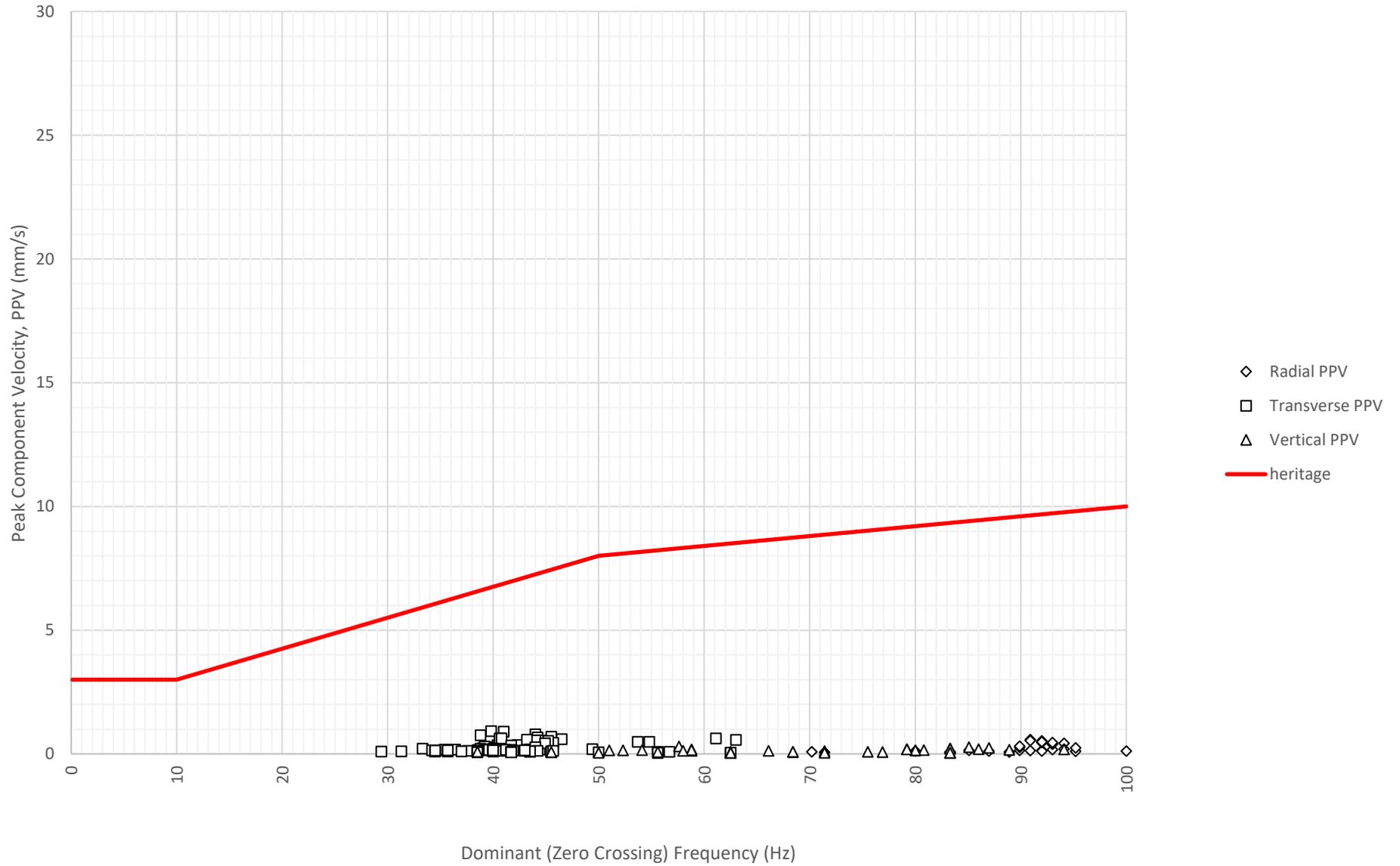
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 16-12-2022



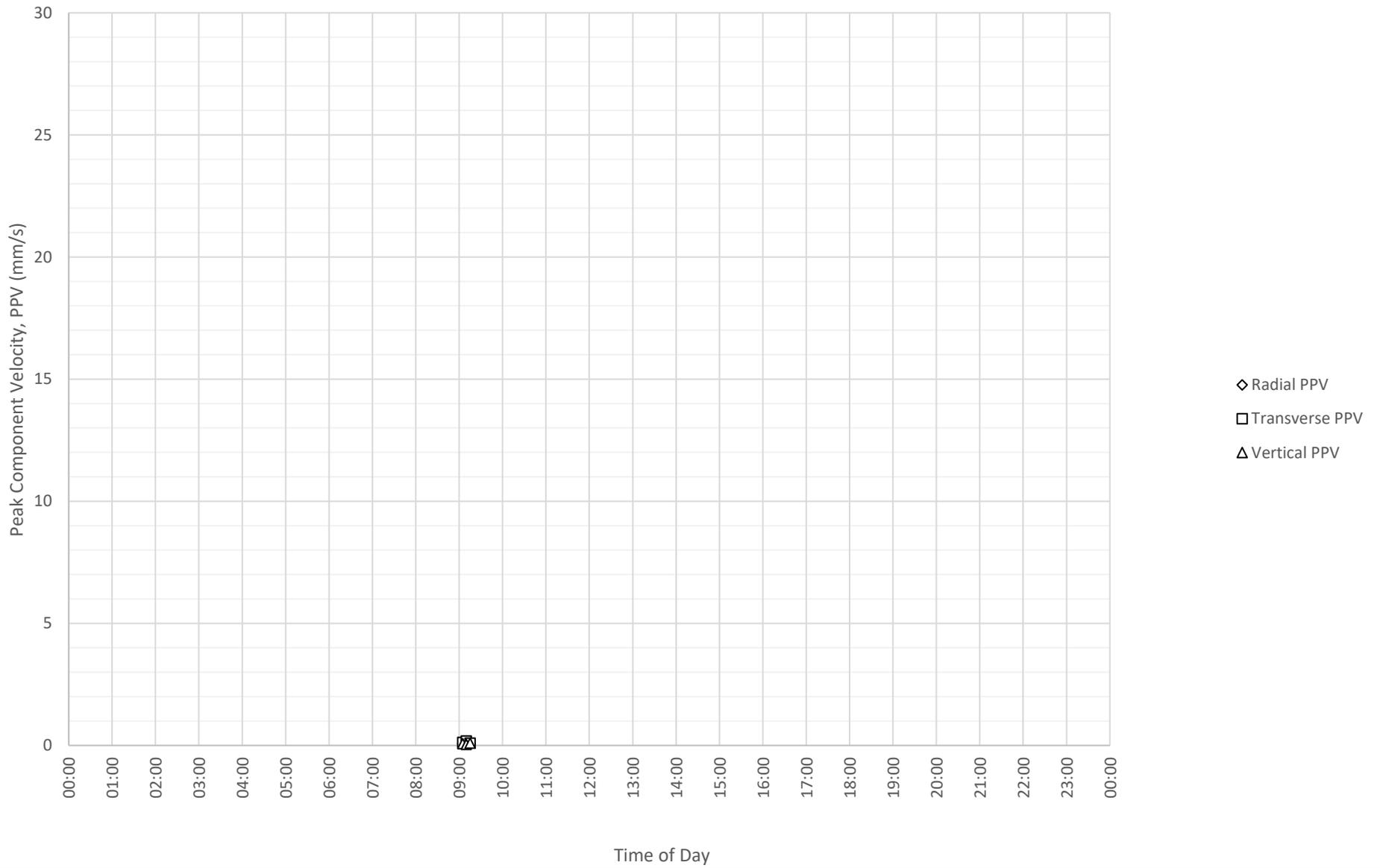
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 17-12-2022



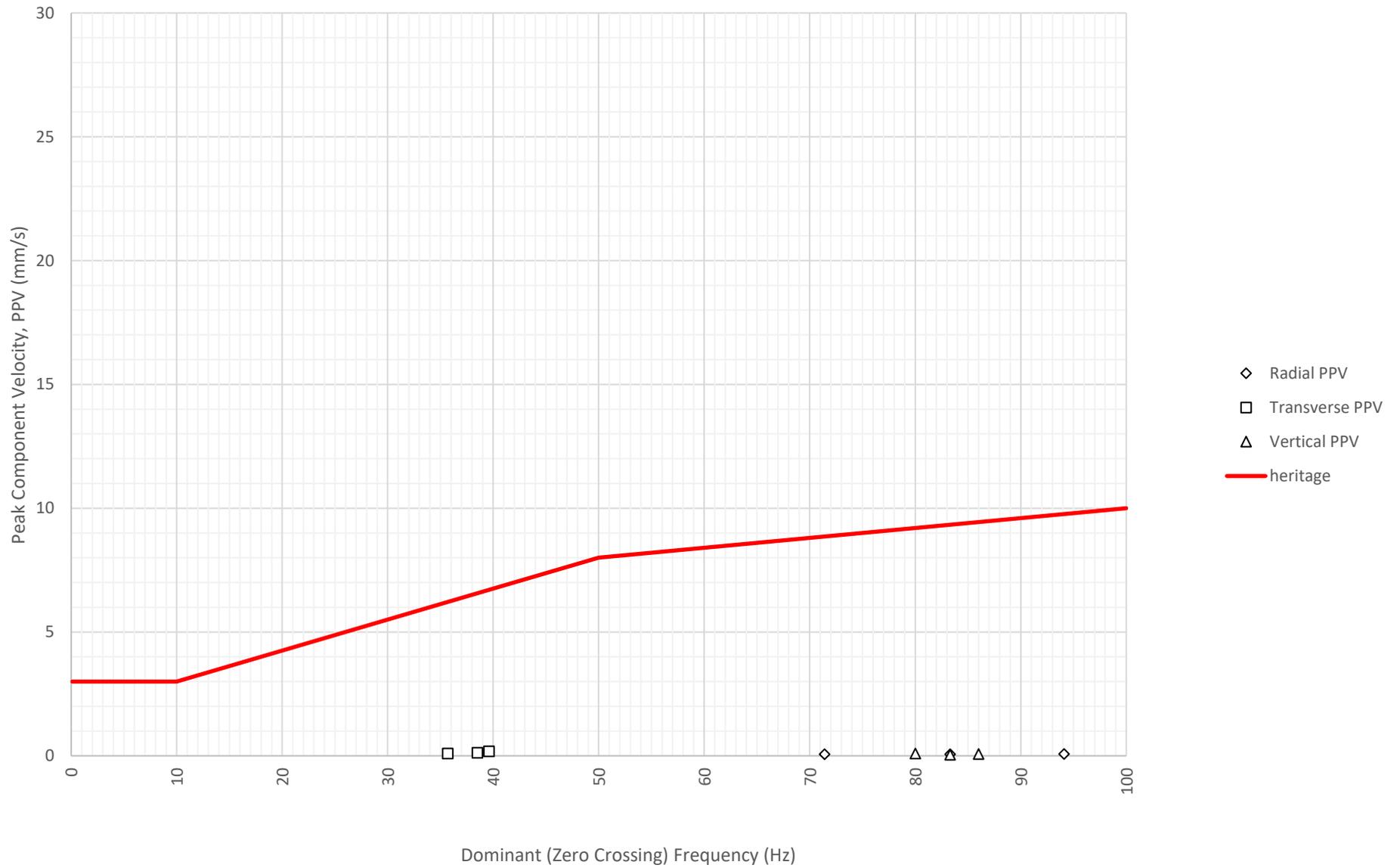
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 17-12-2022



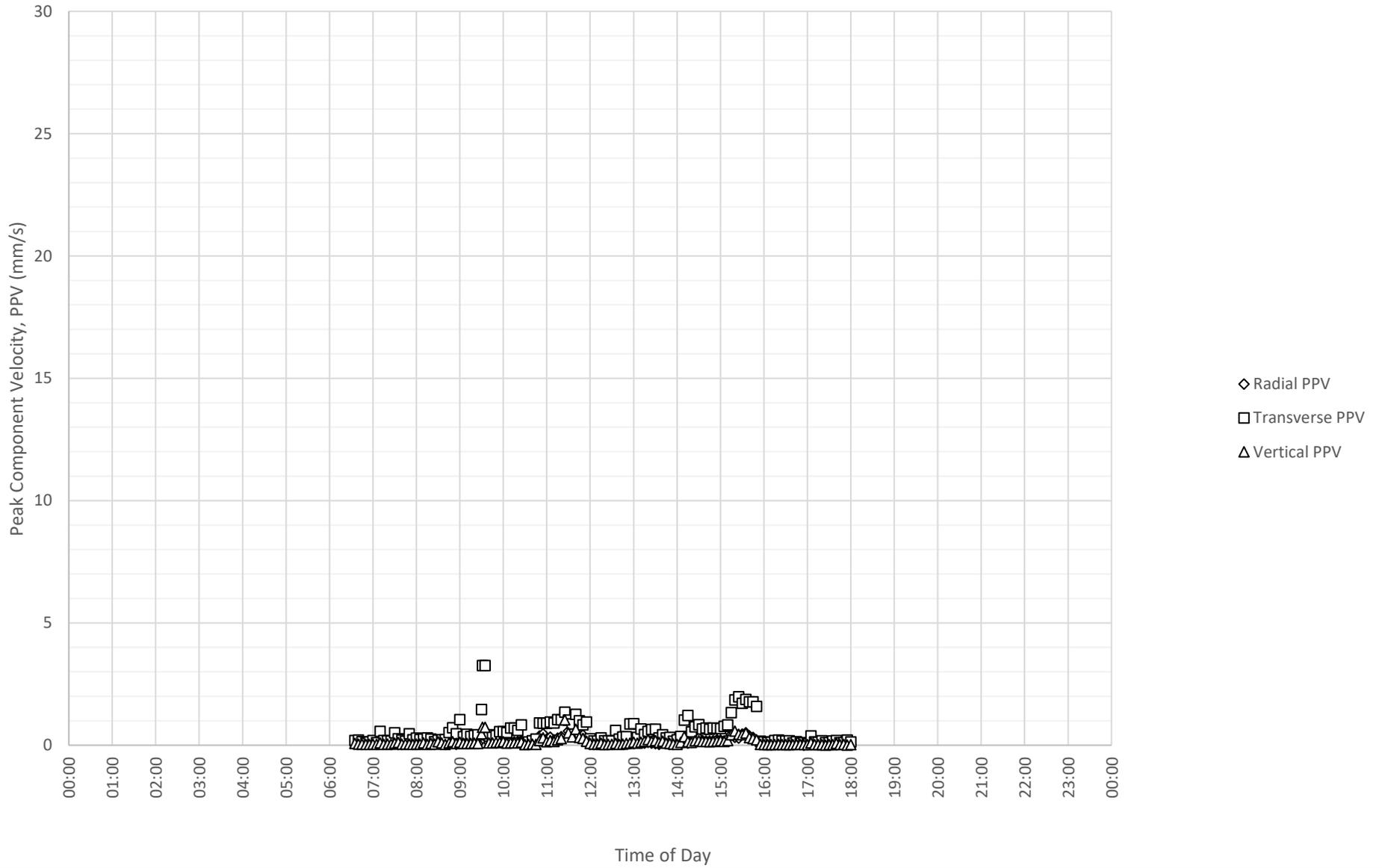
Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 18-12-2022



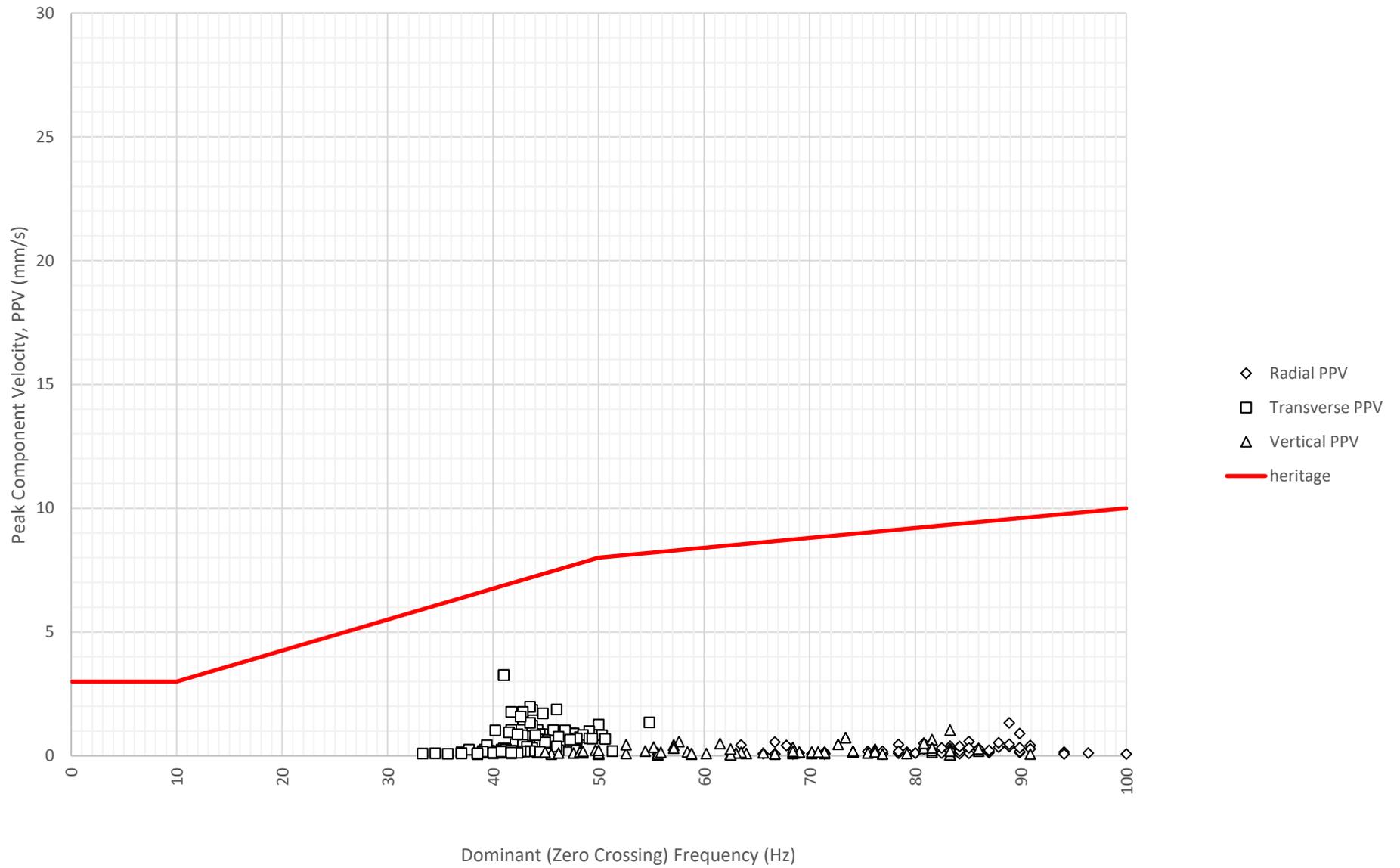
Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 18-12-2022



Daily Monitored Vibration Levels at M7713/ M7427 Heritage (front) on 19-12-2022

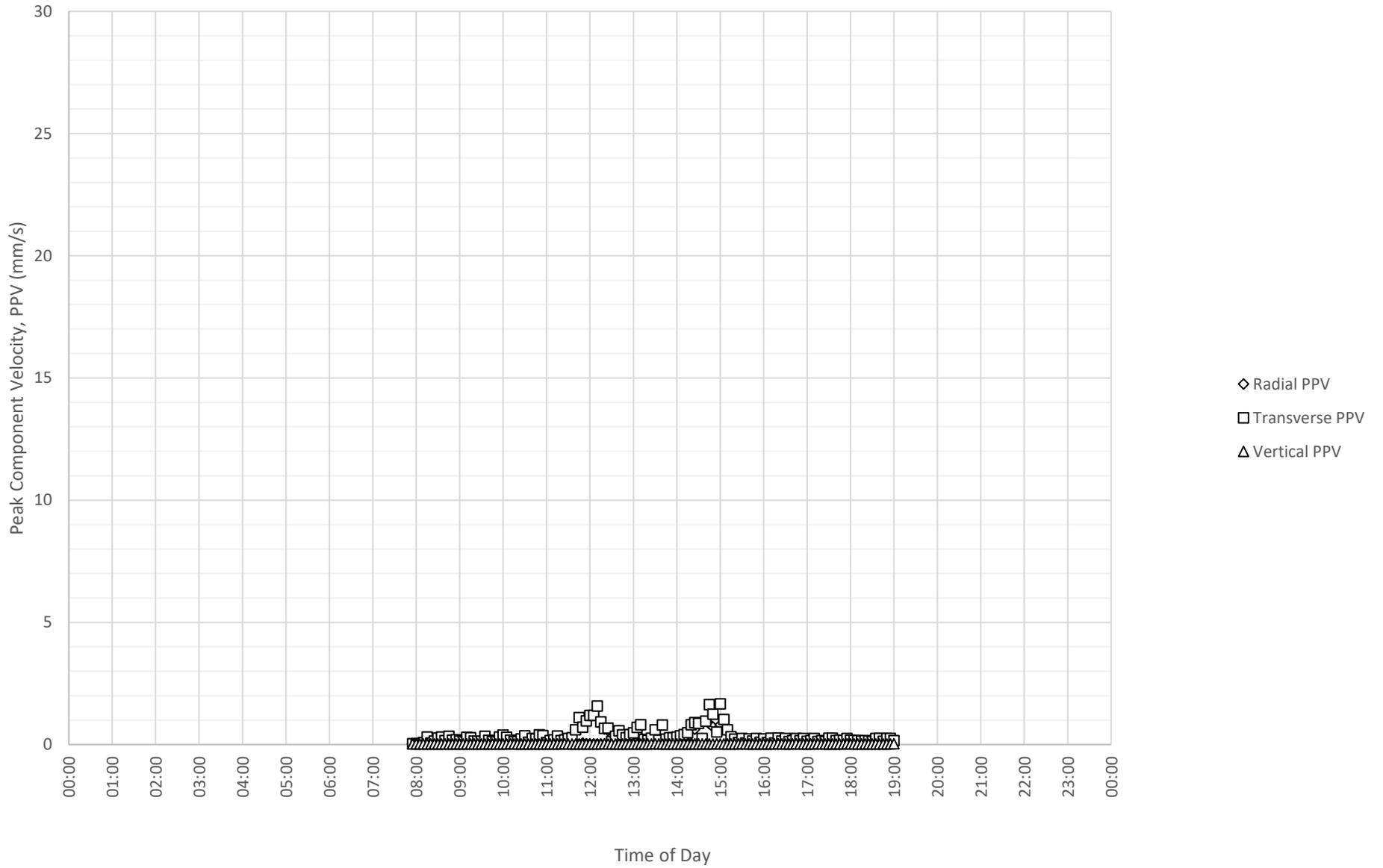


Frequency Content of Vibration Levels at M7713/ M7427 Heritage (front) on 19-12-2022

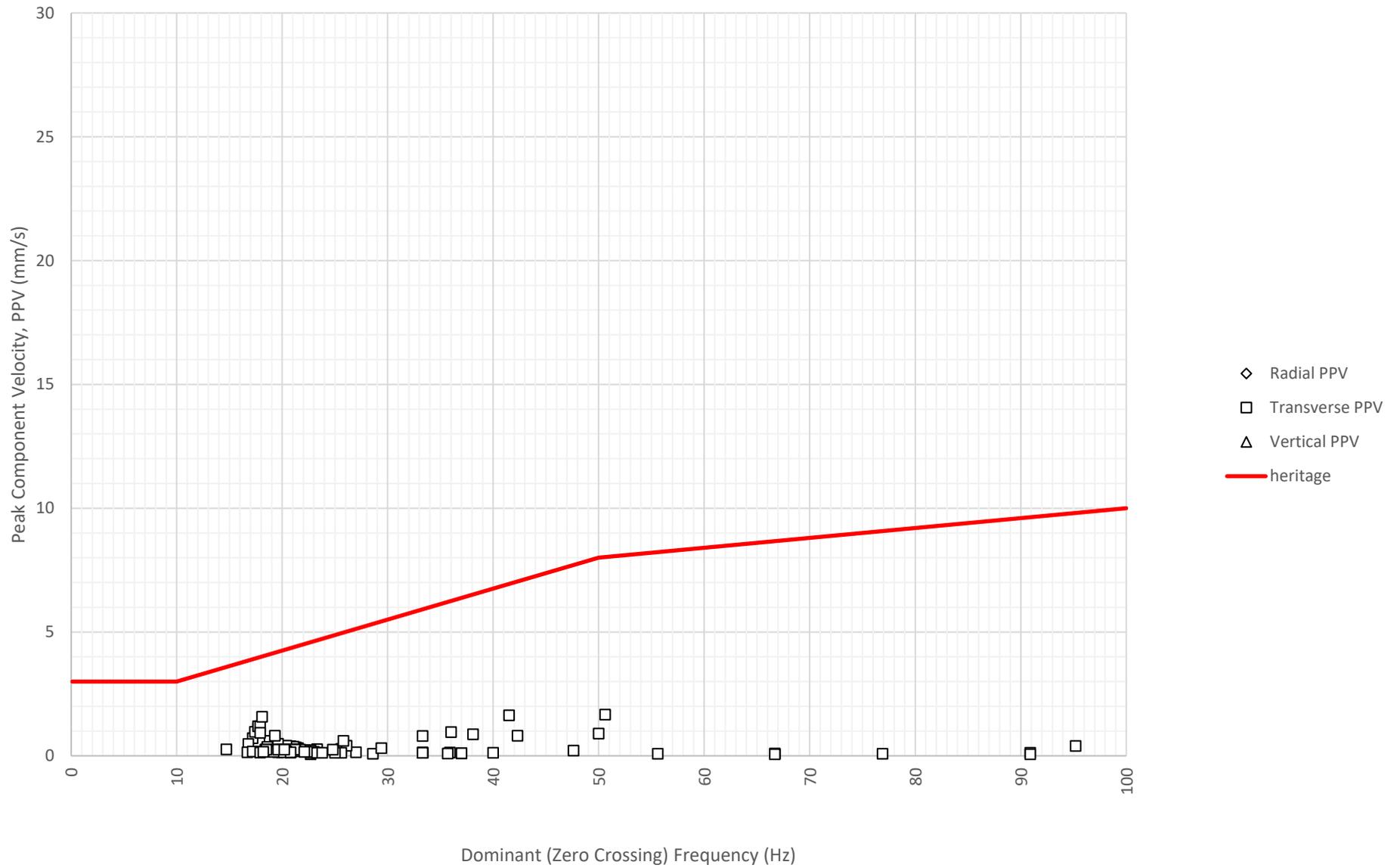


## **APPENDIX 2 :DAILY GRAPHS M7427/ M7496 HERITAGE (REAR)**

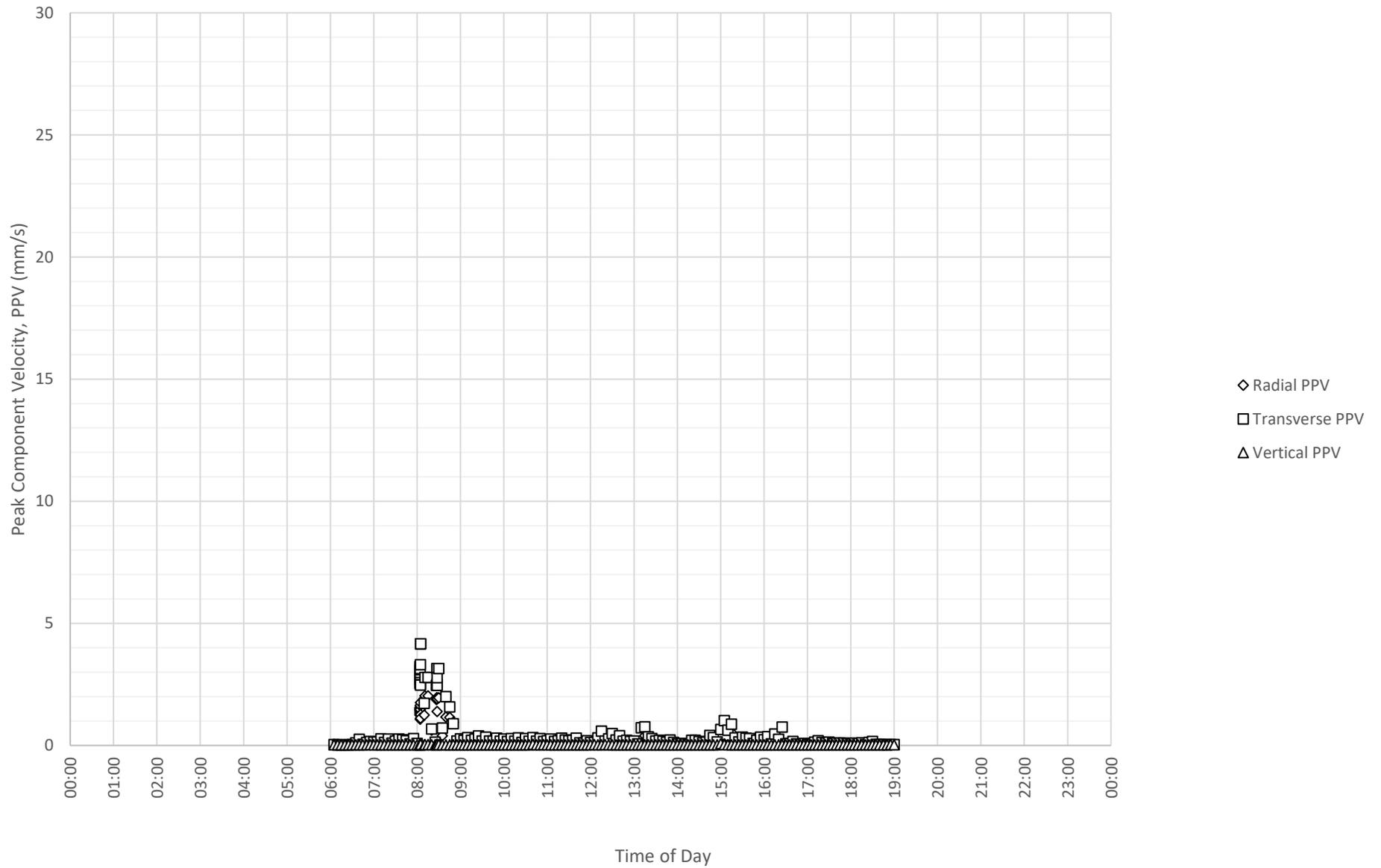
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 14-11-2022



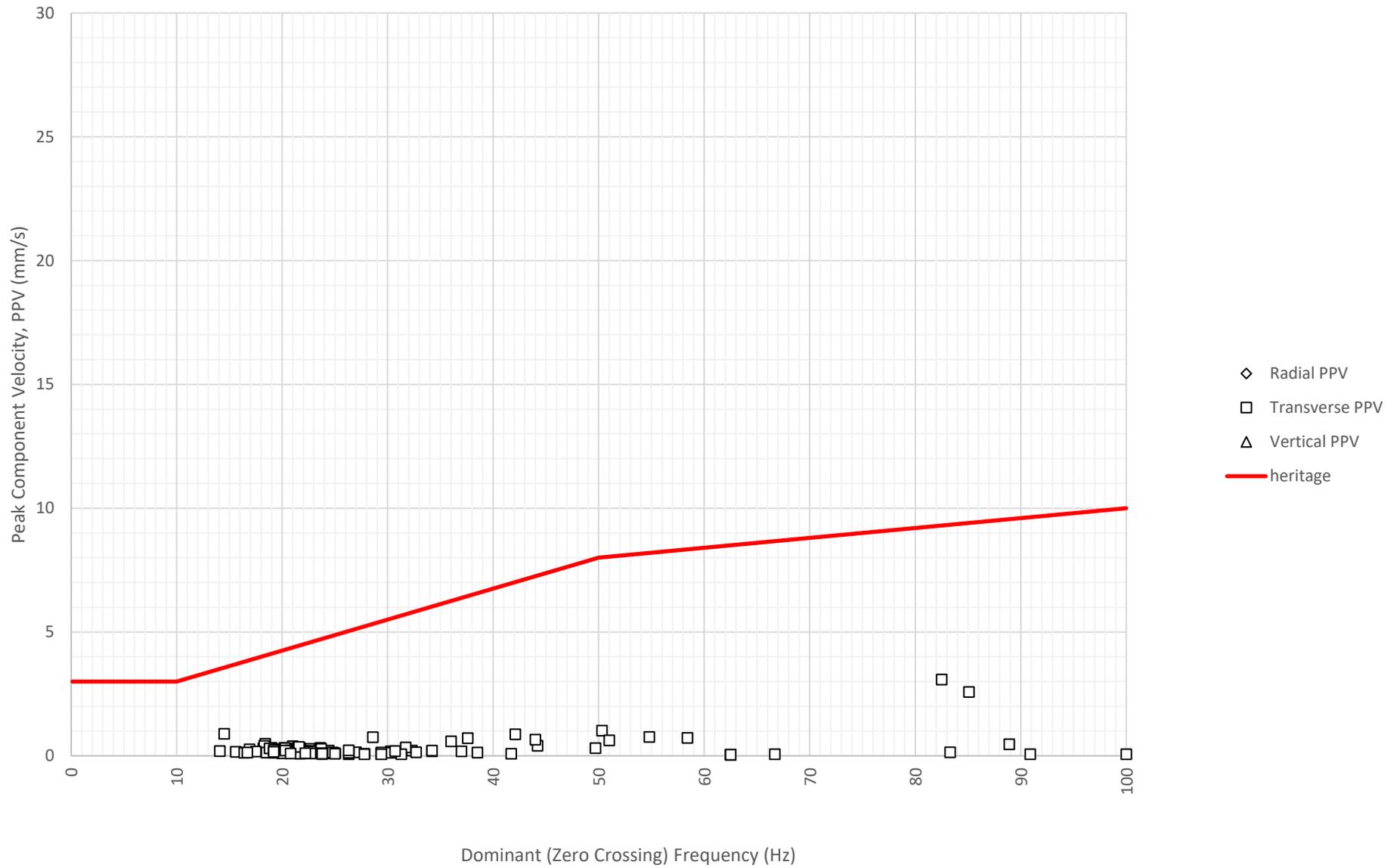
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 14-11-2022



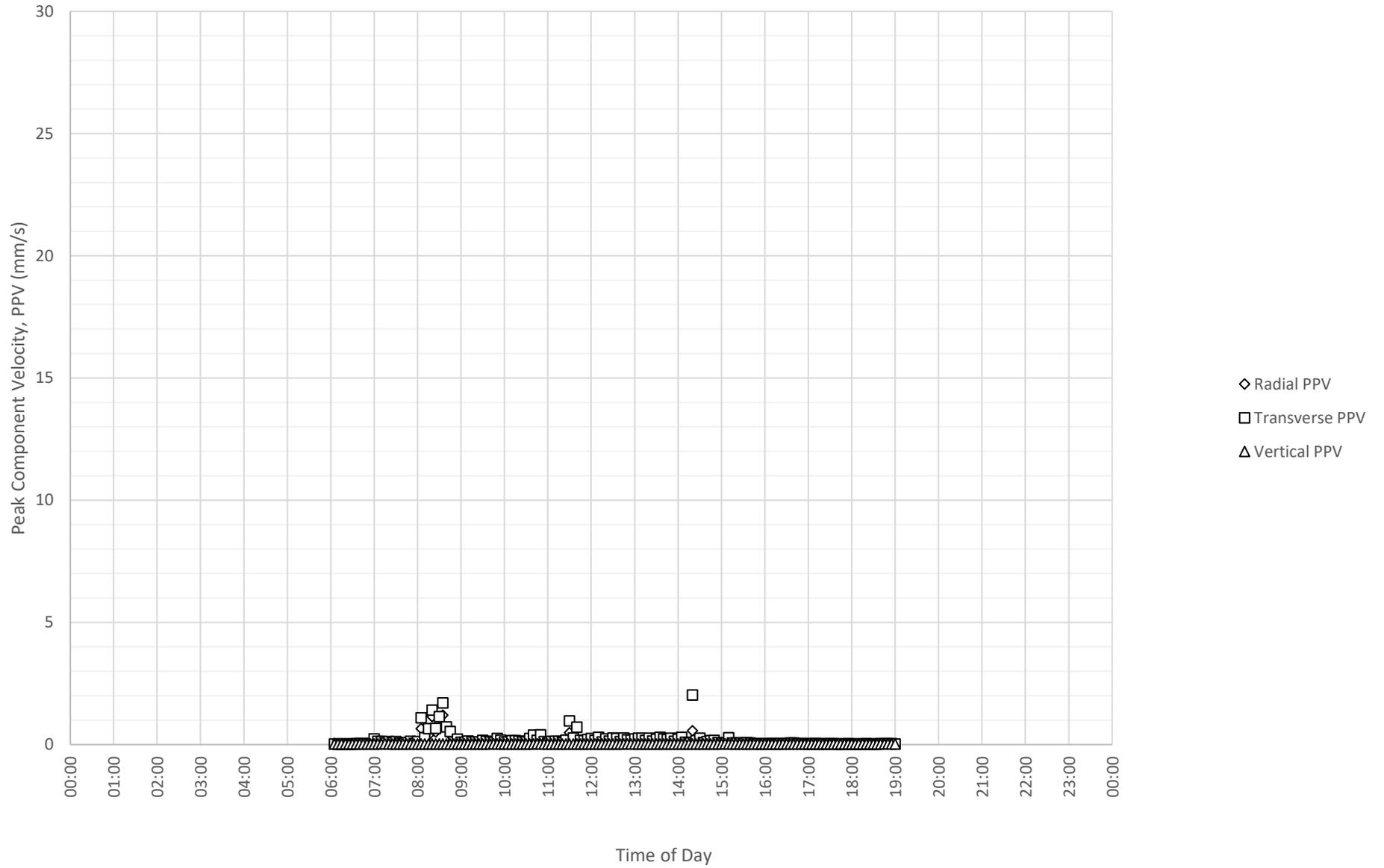
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 15-11-2022



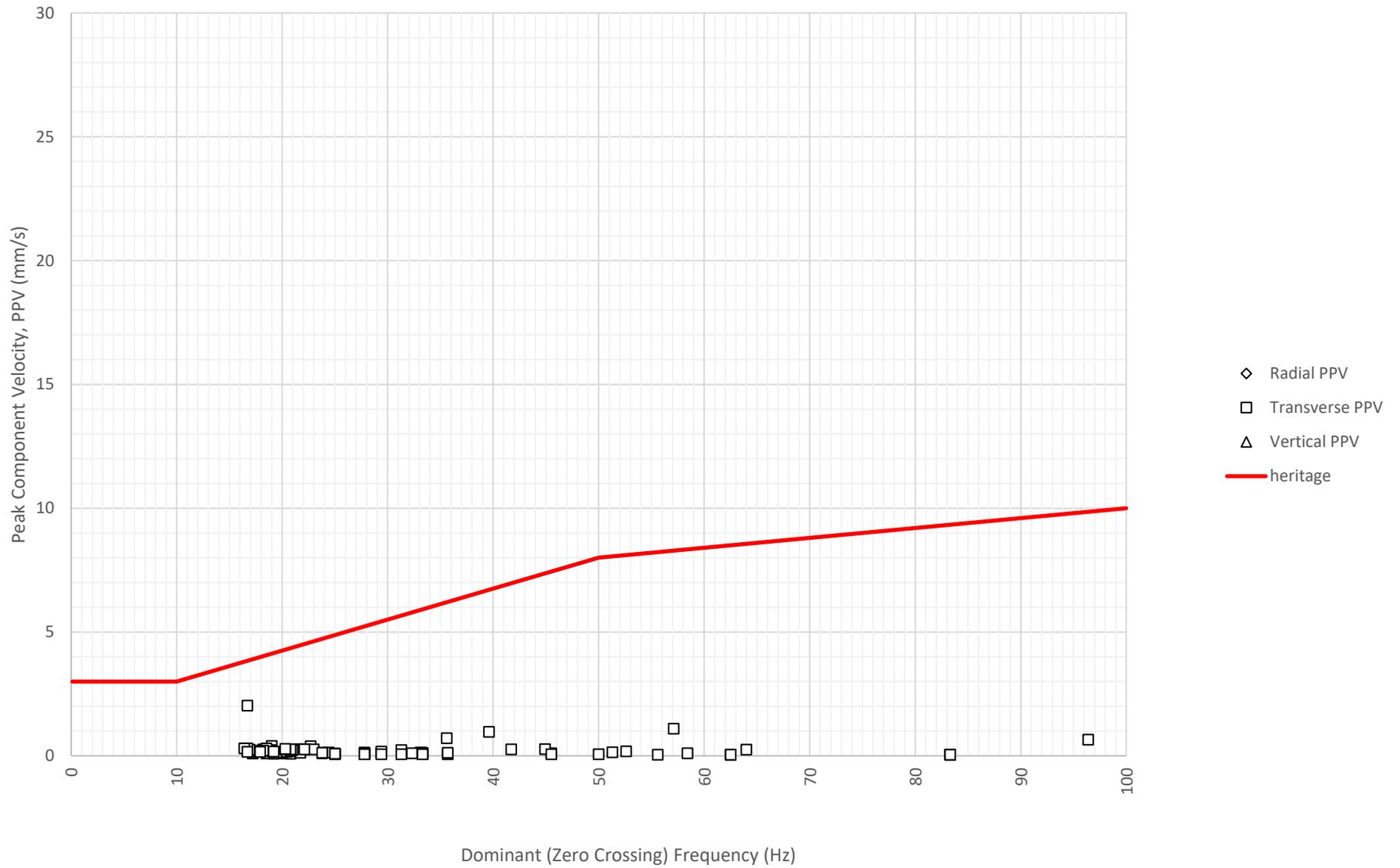
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 15-11-2022



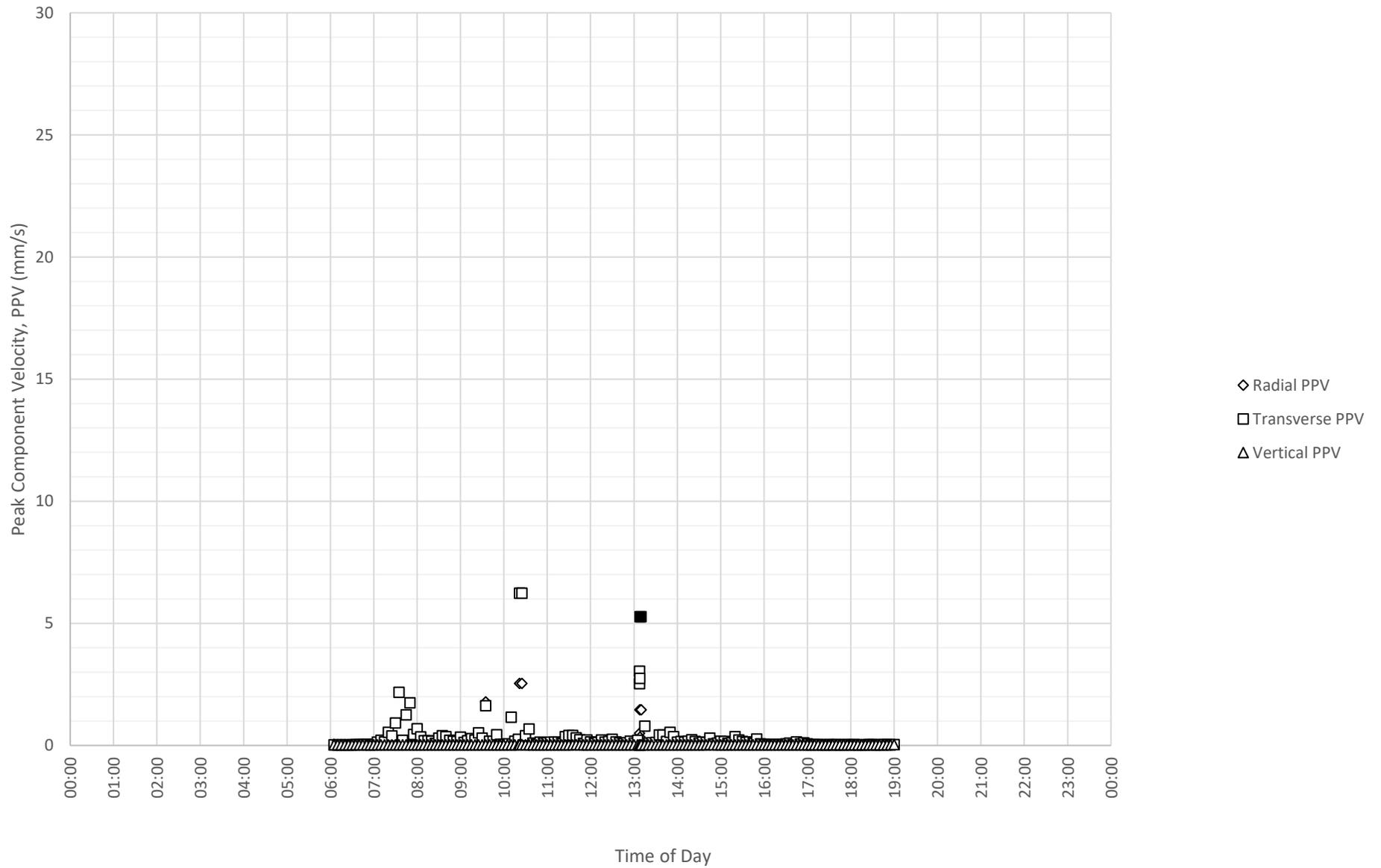
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 16-11-2022



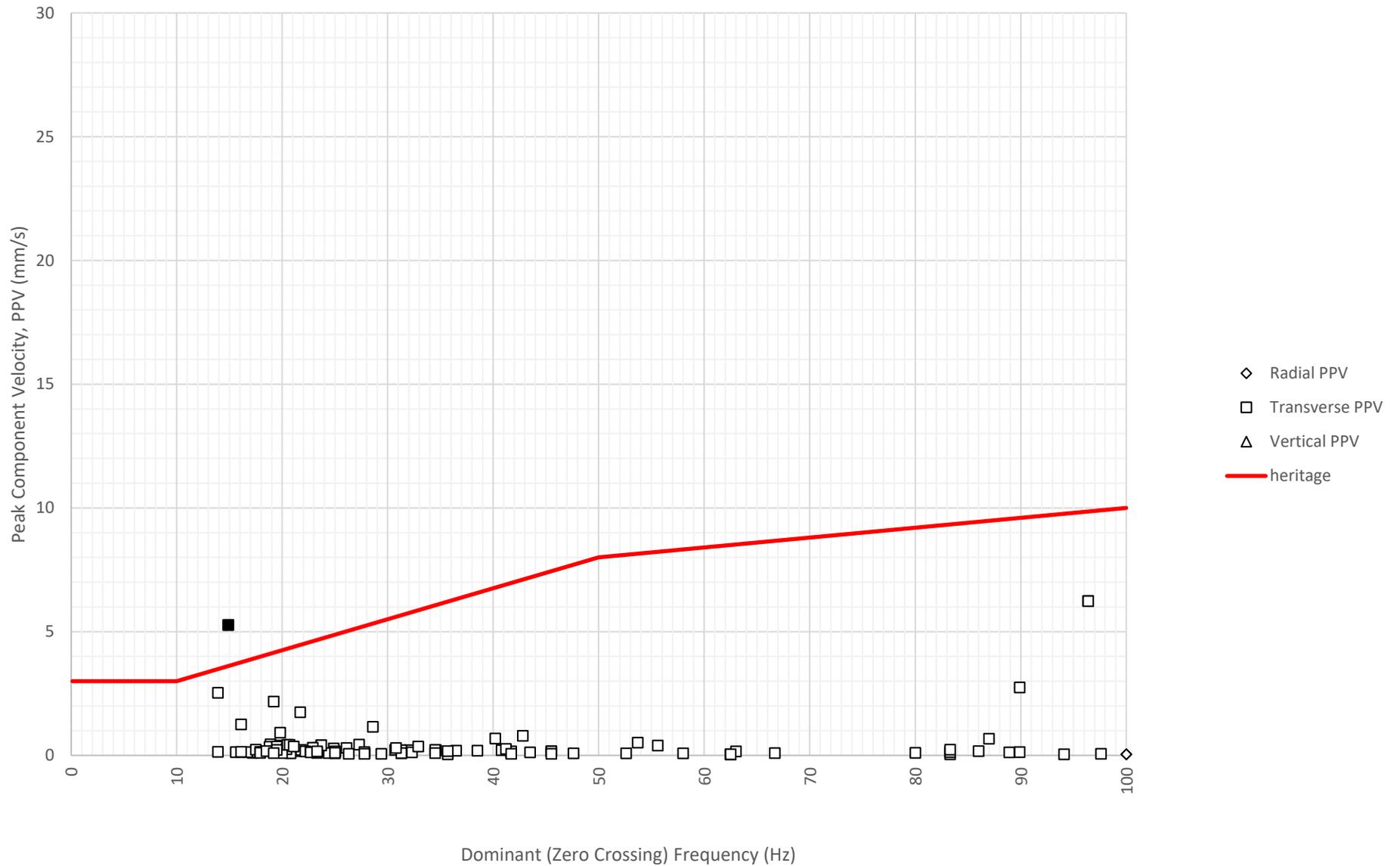
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 16-11-2022



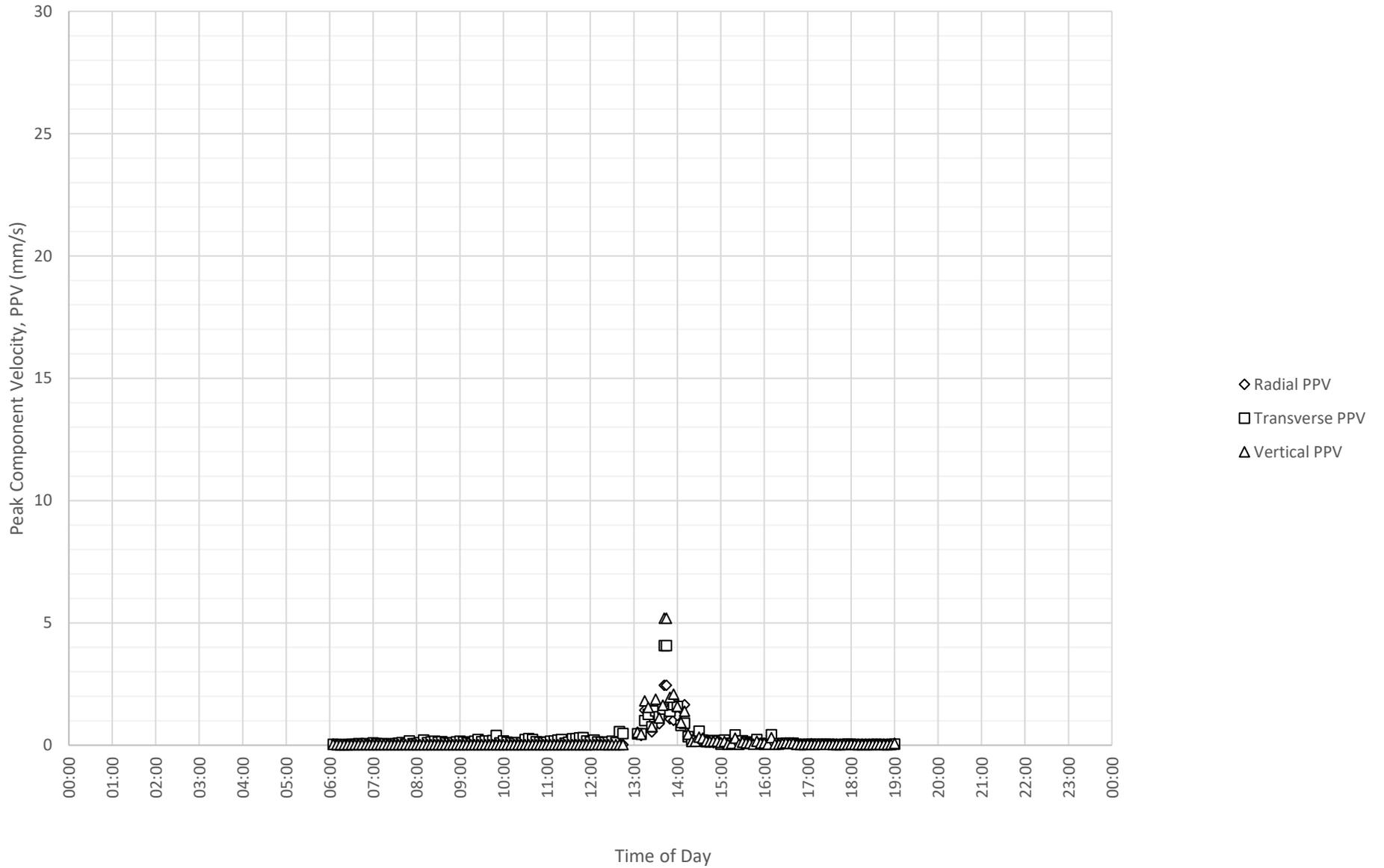
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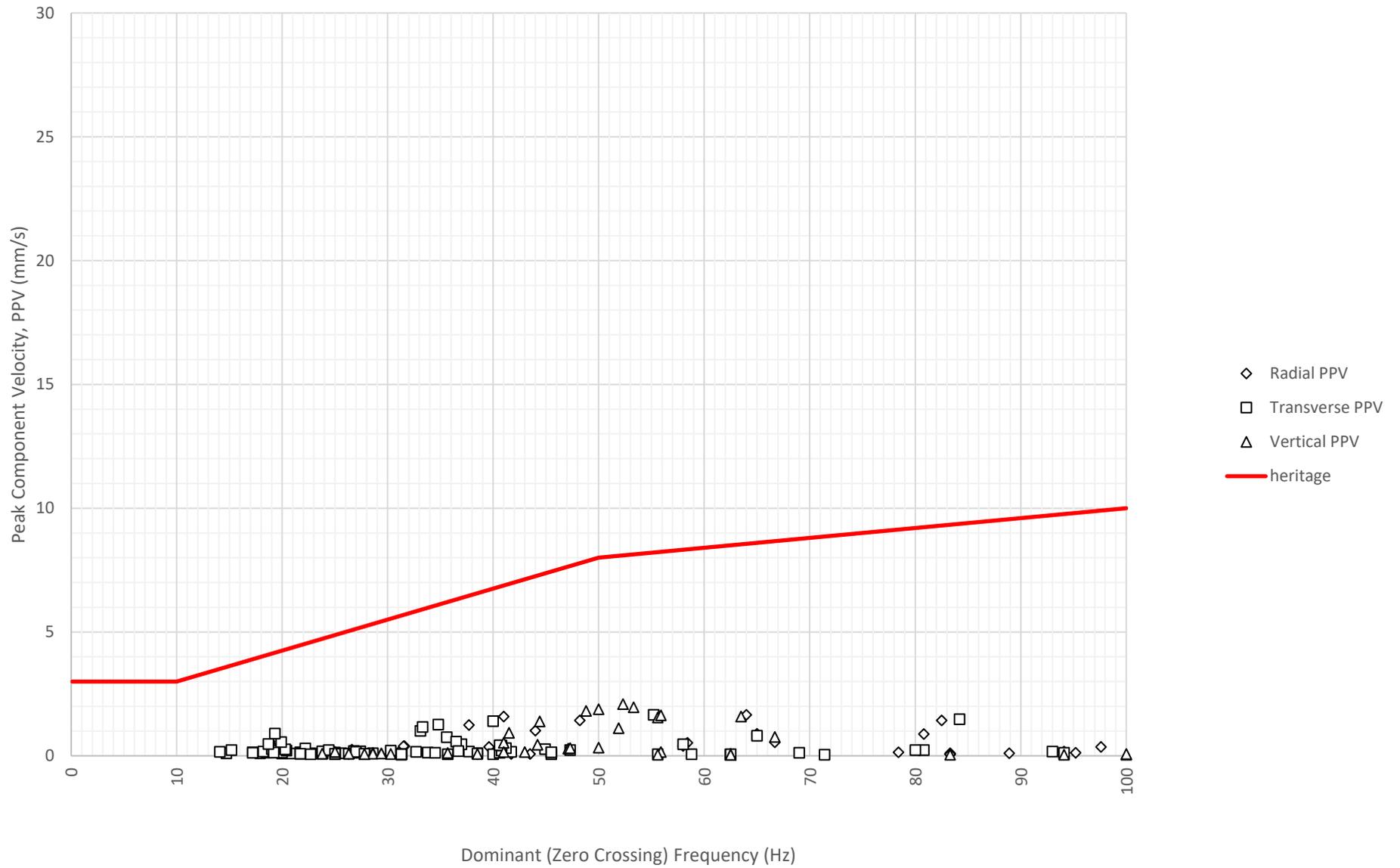
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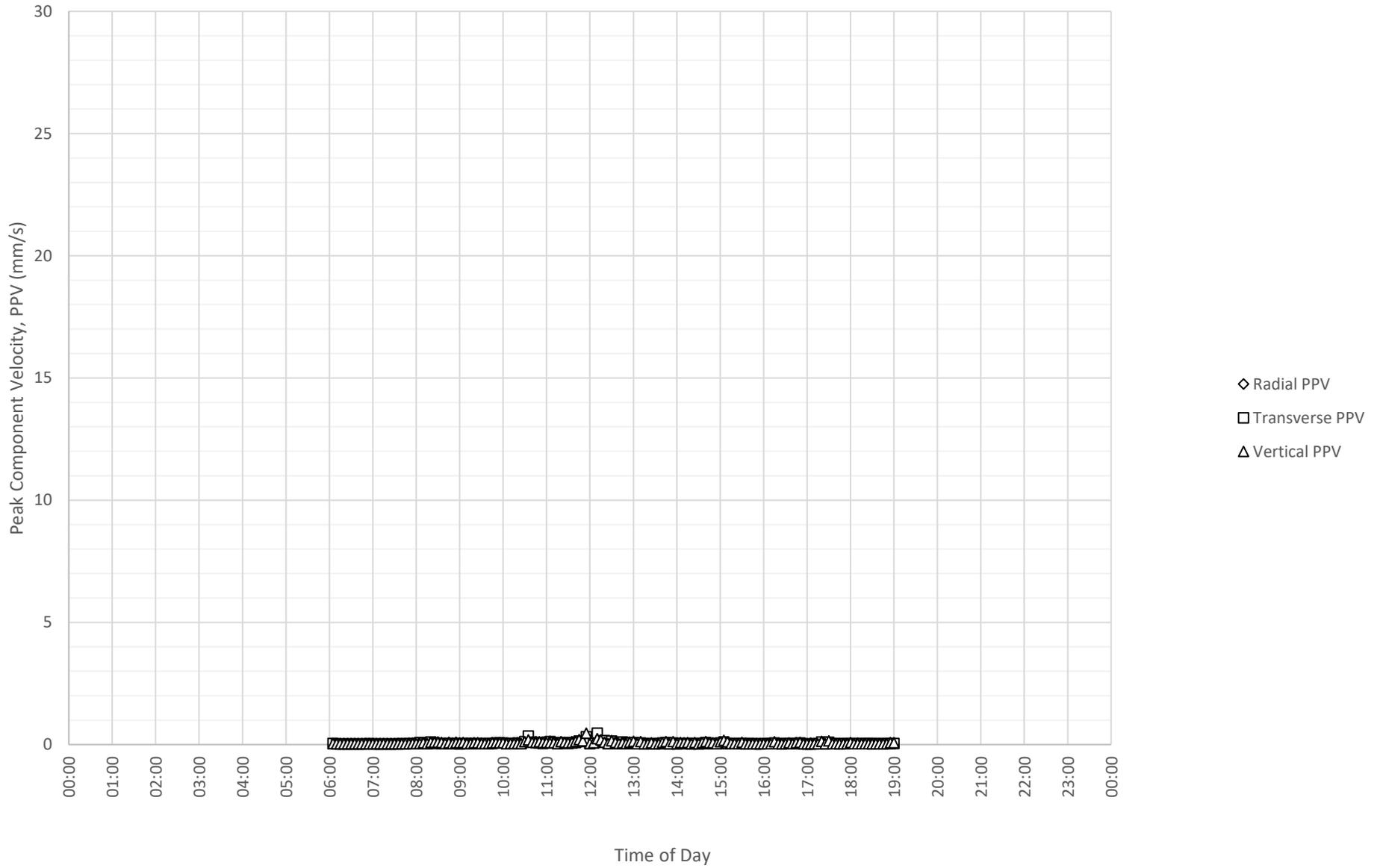
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 18-11-2022



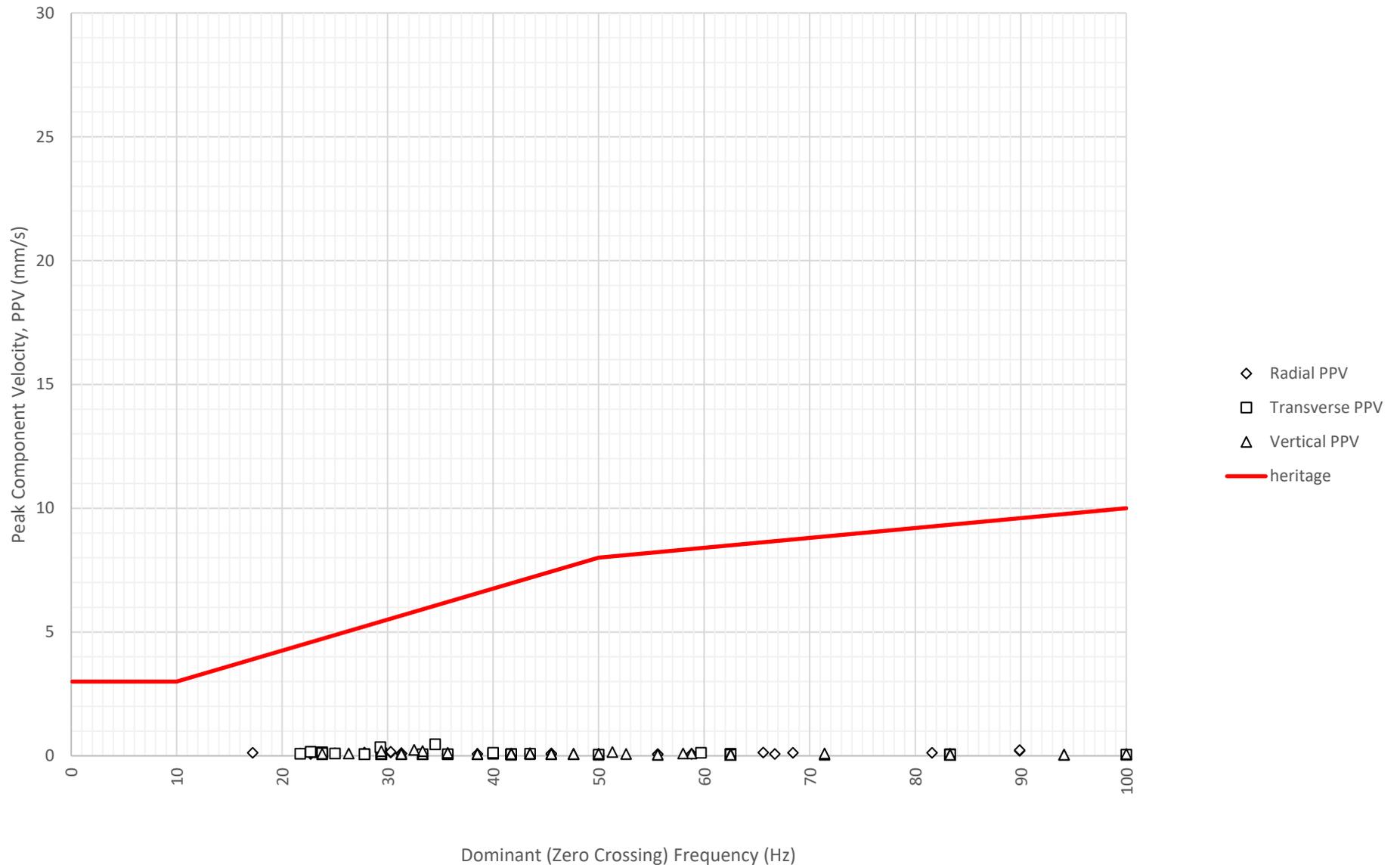
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 18-11-2022



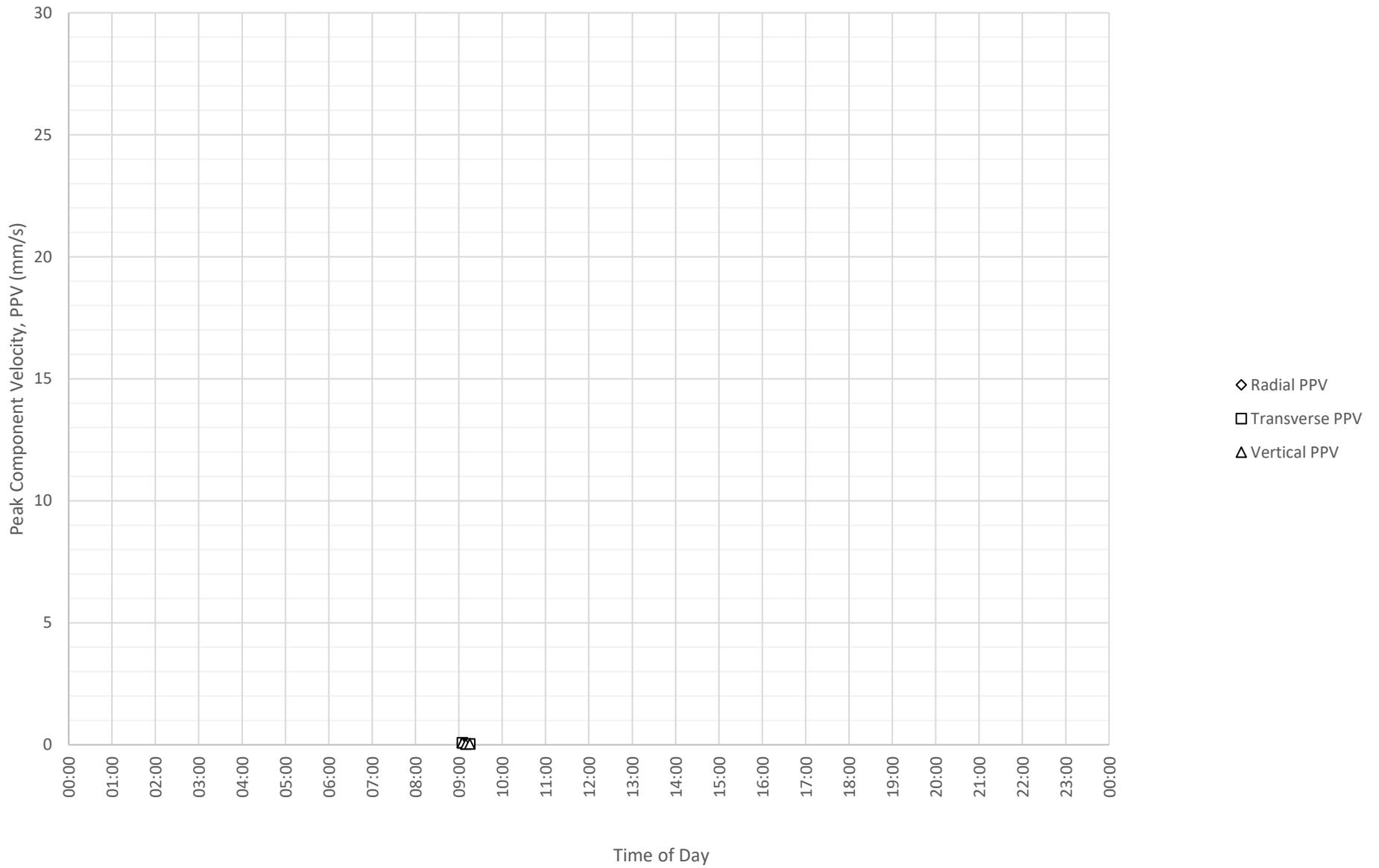
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 19-11-2022



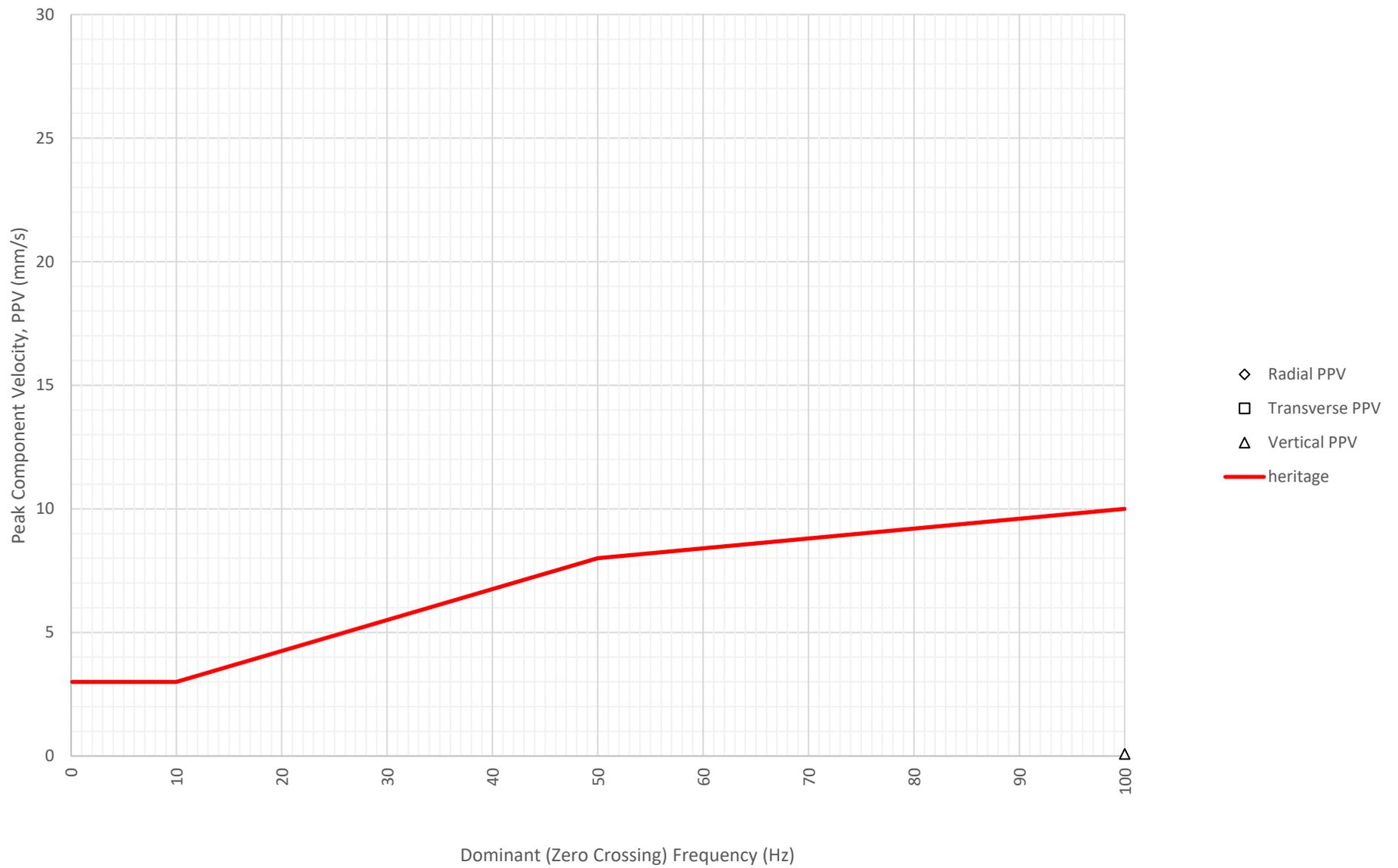
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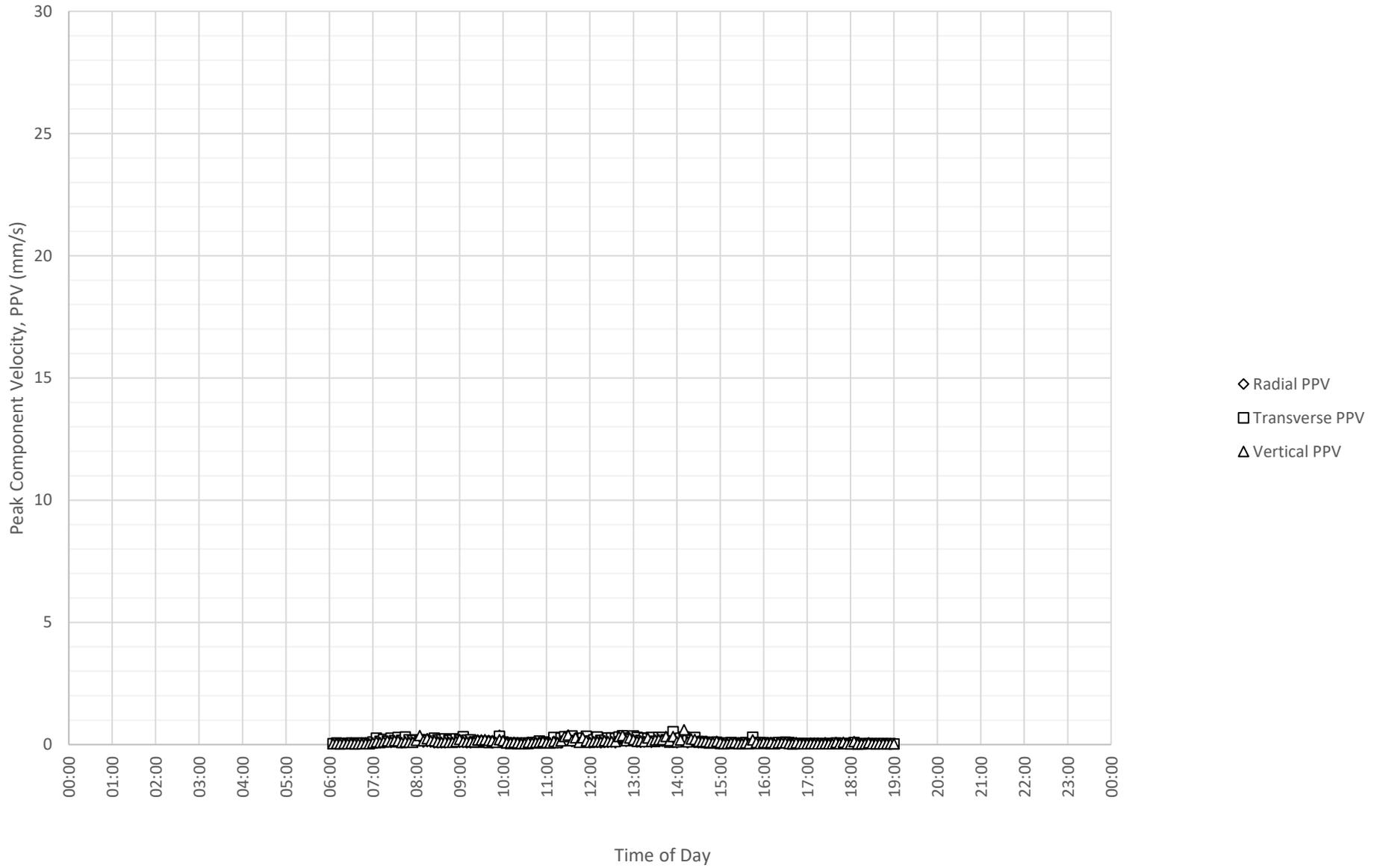
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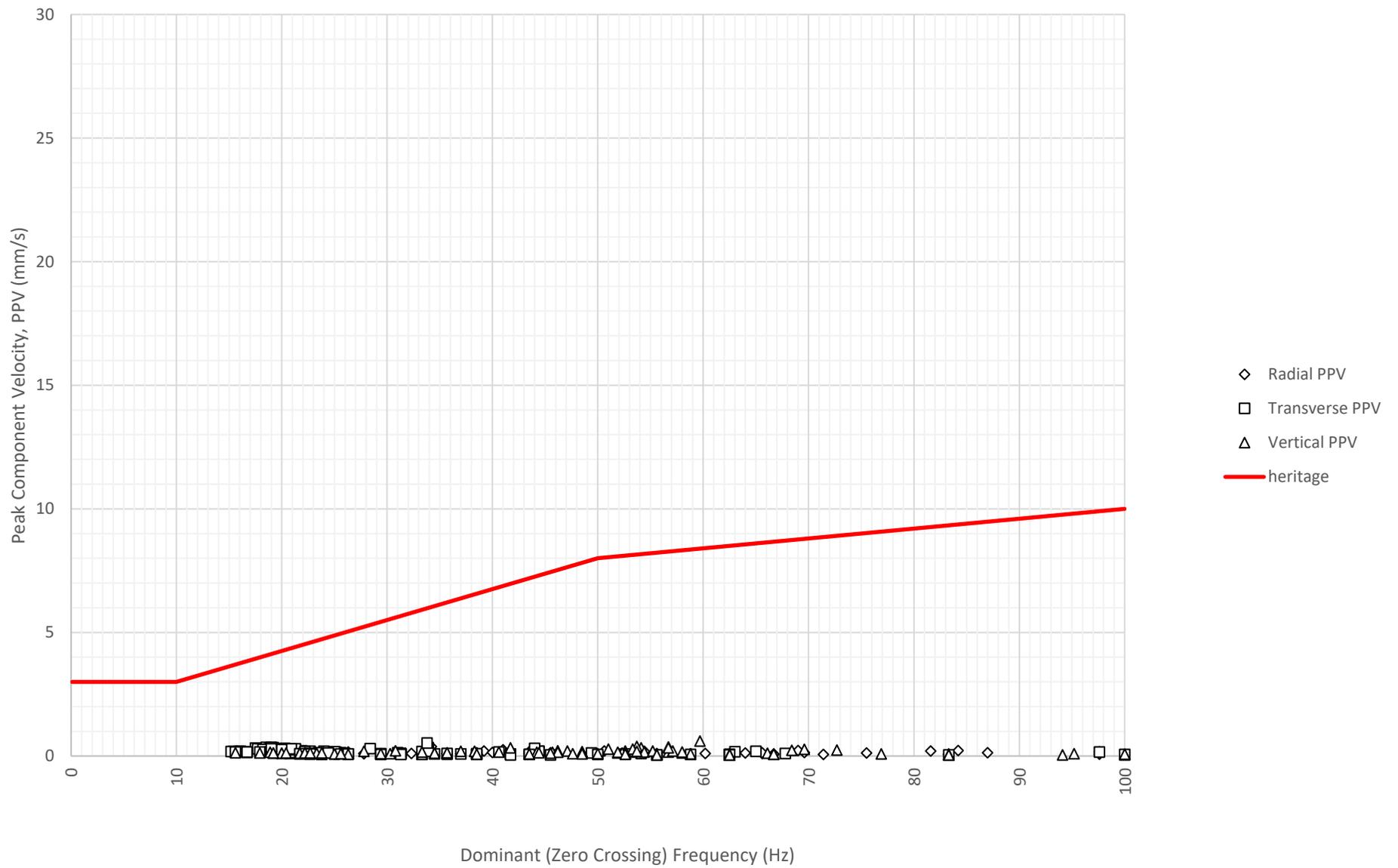
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 20-11-2022



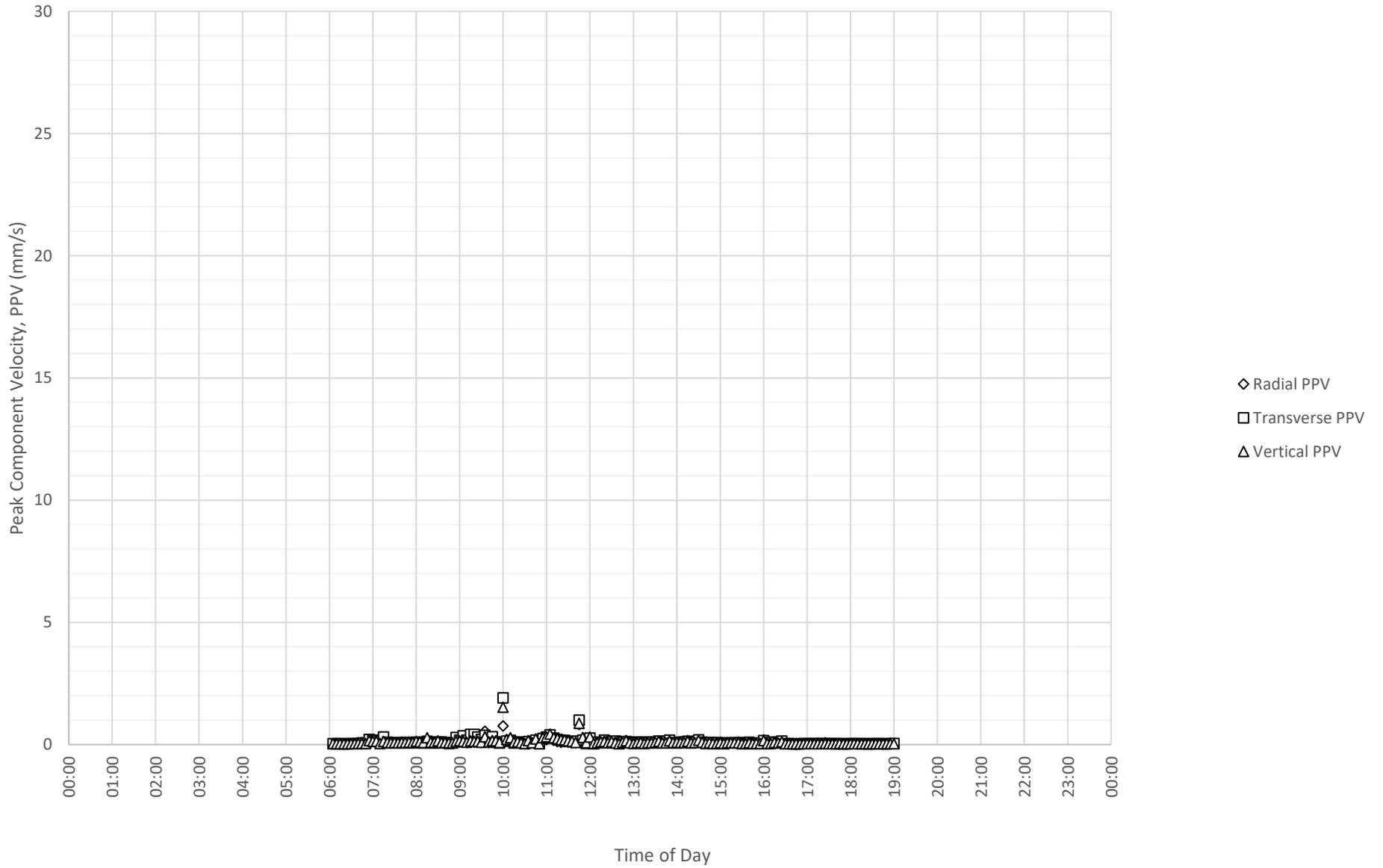
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 21-11-2022



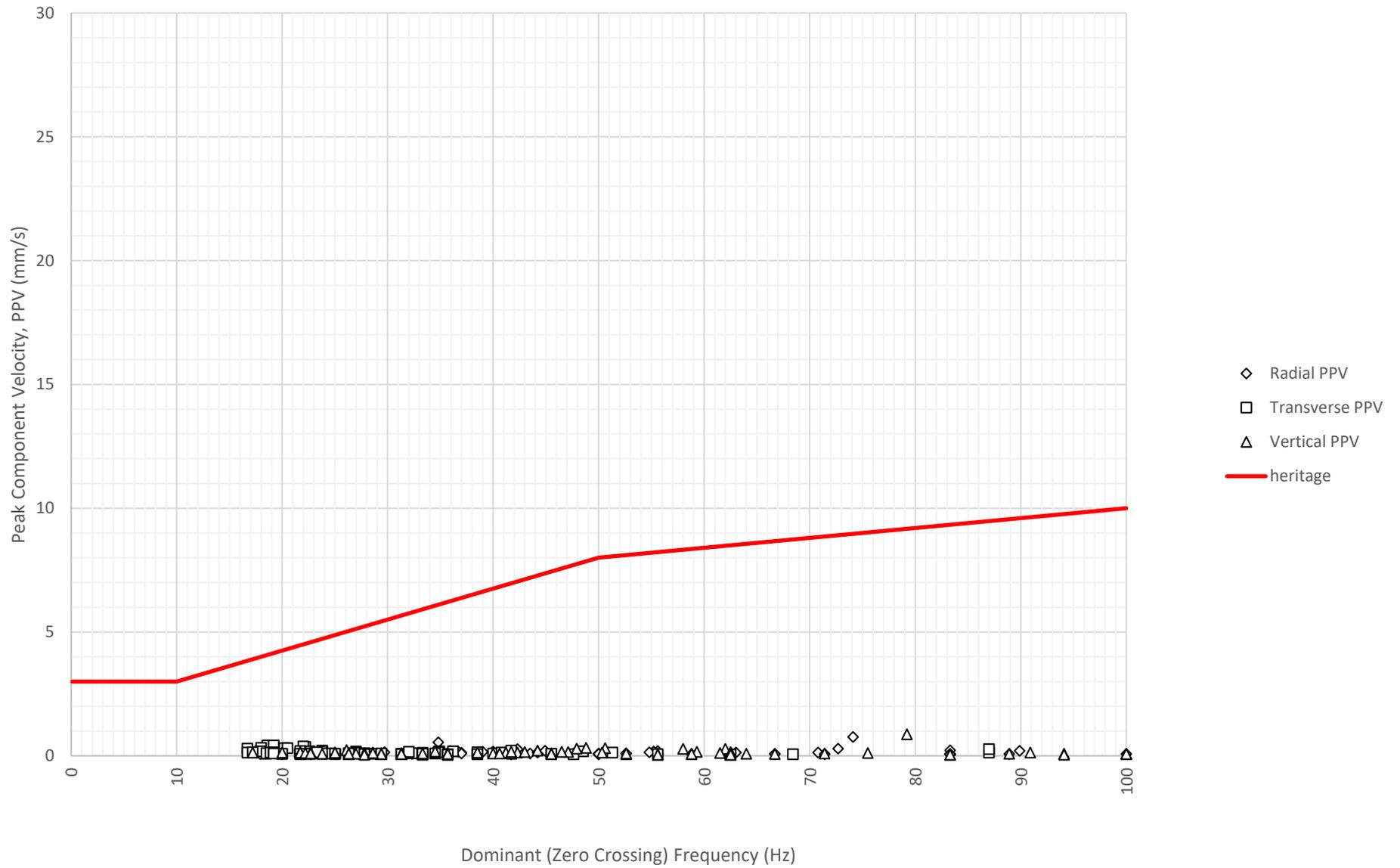
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 21-11-2022



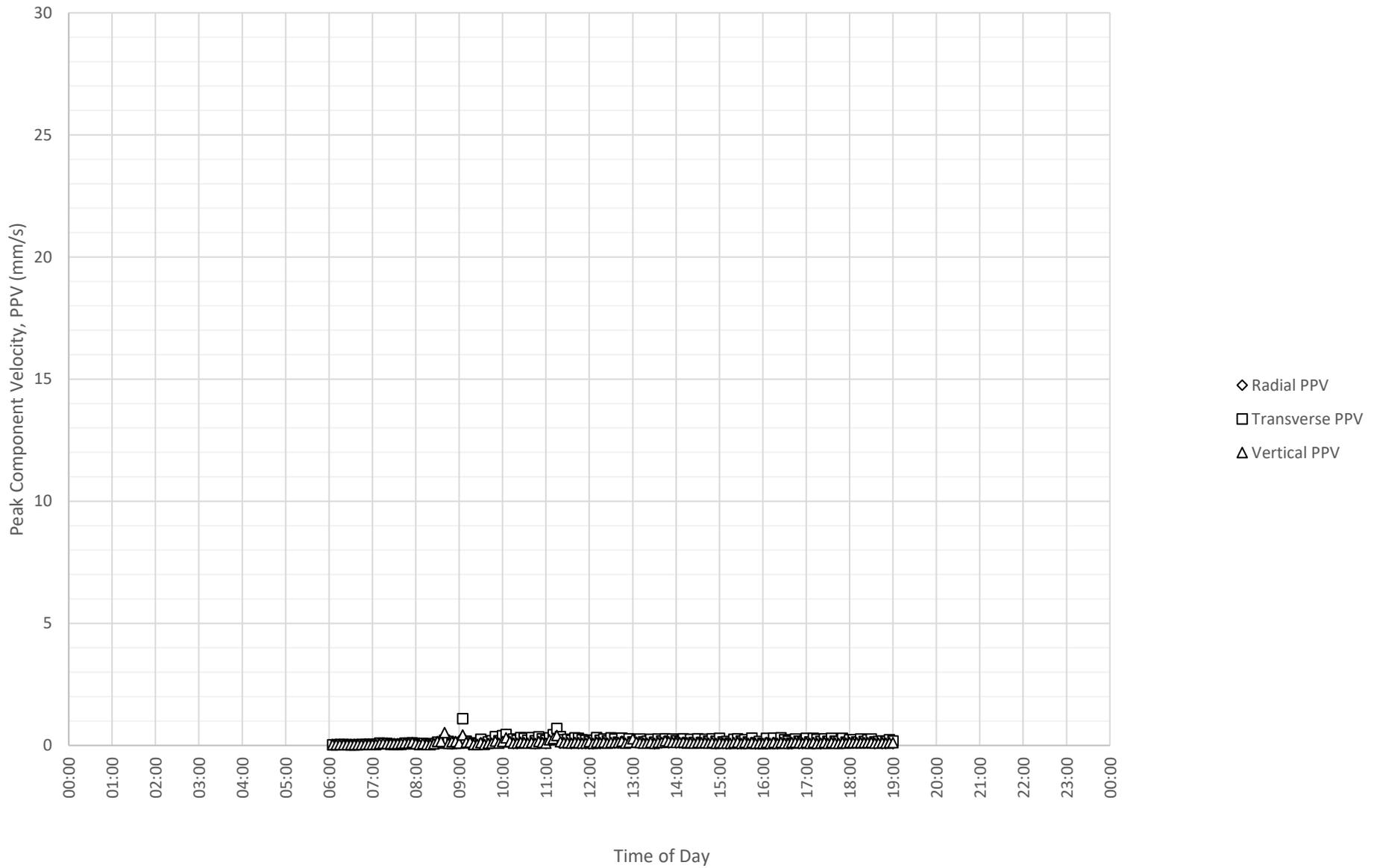
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 22-11-2022



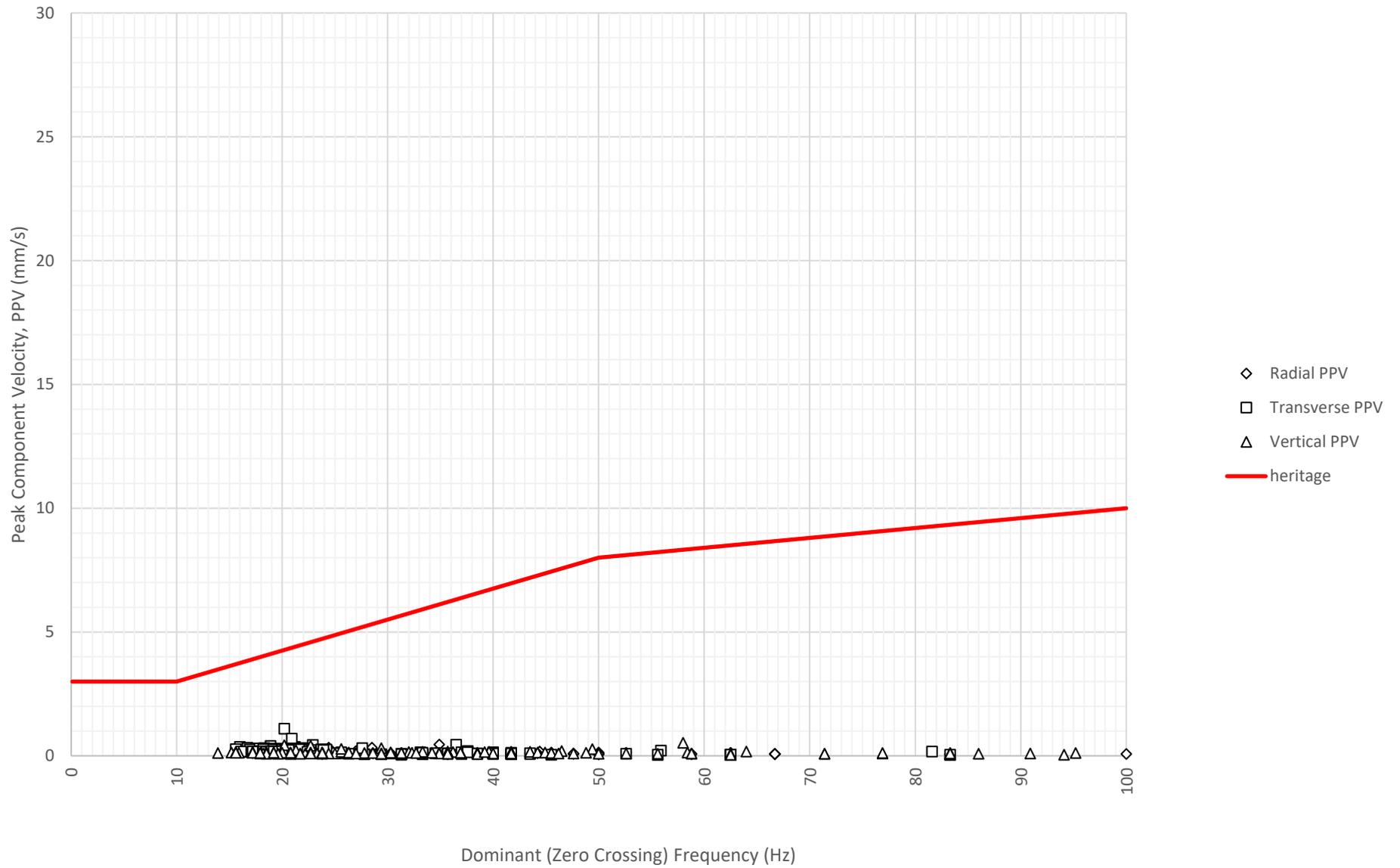
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 22-11-2022



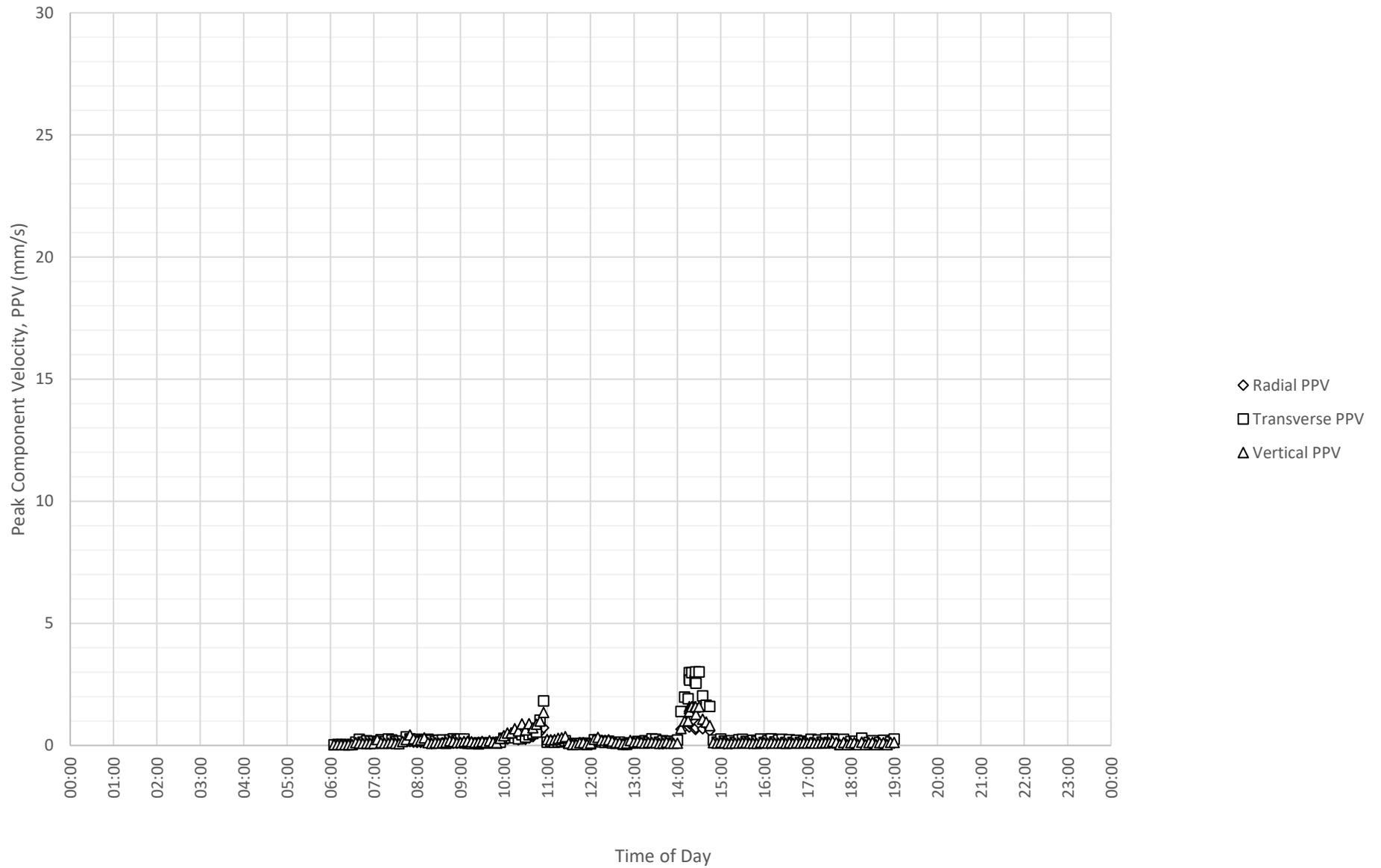
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 23-11-2022



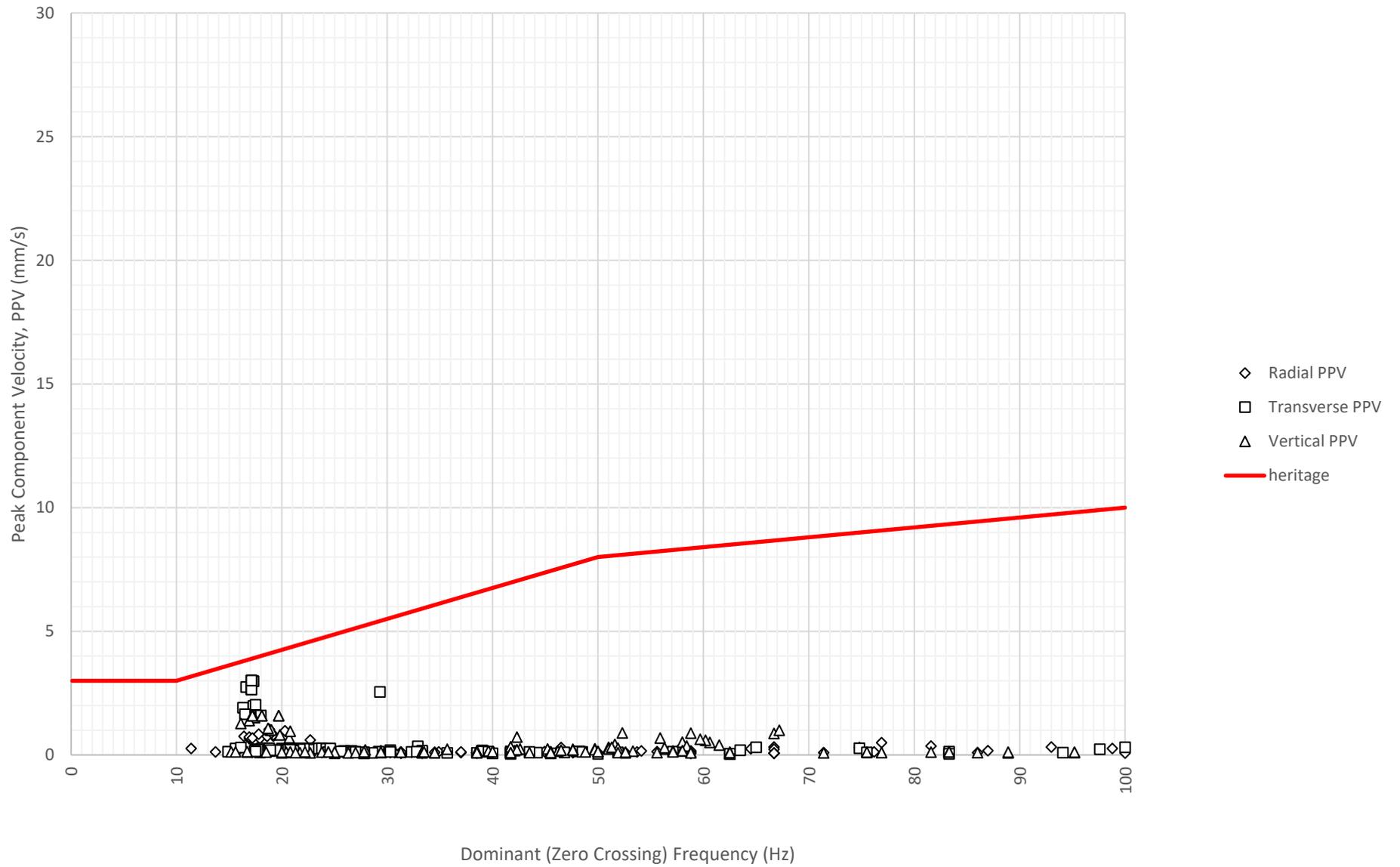
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 23-11-2022



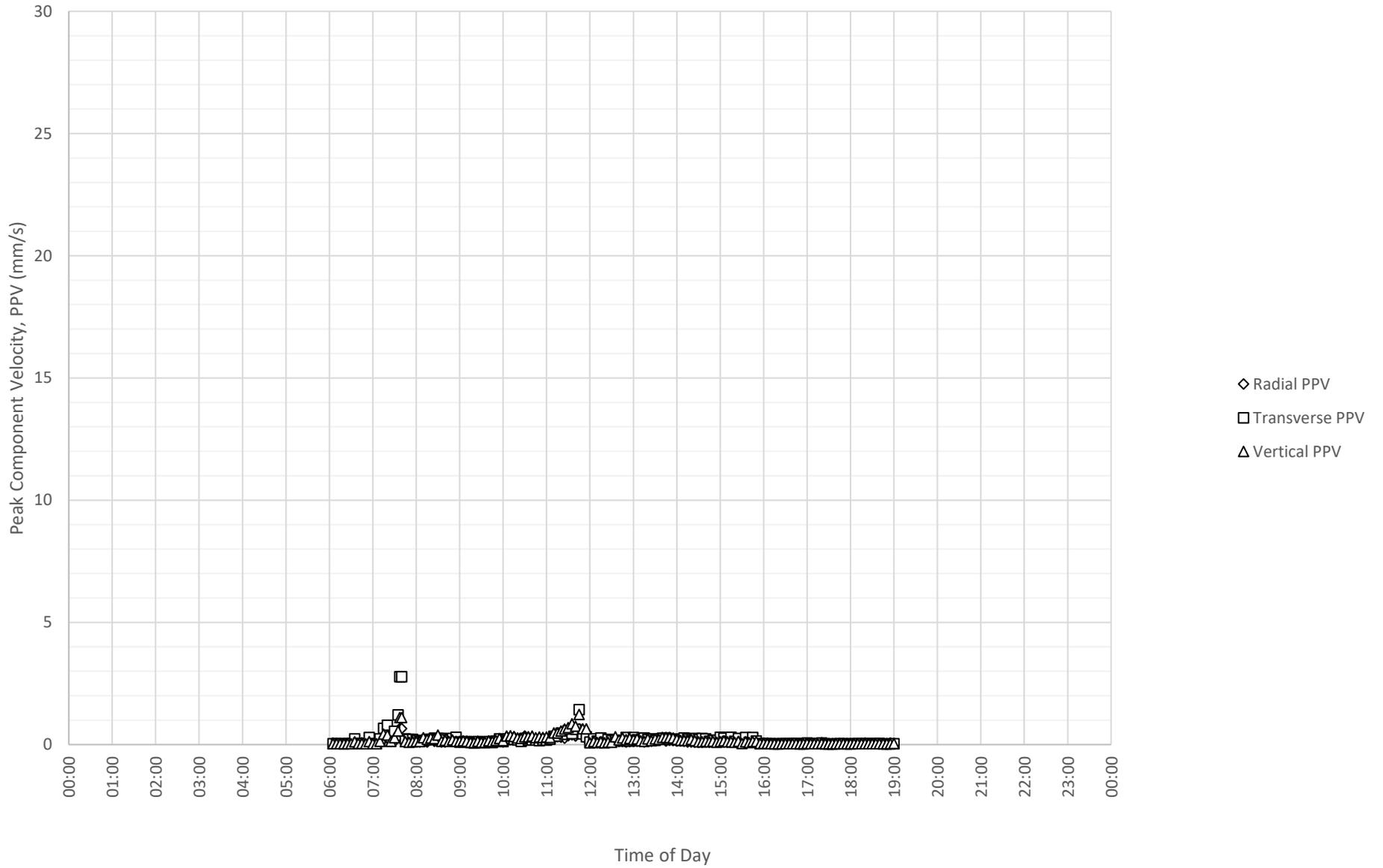
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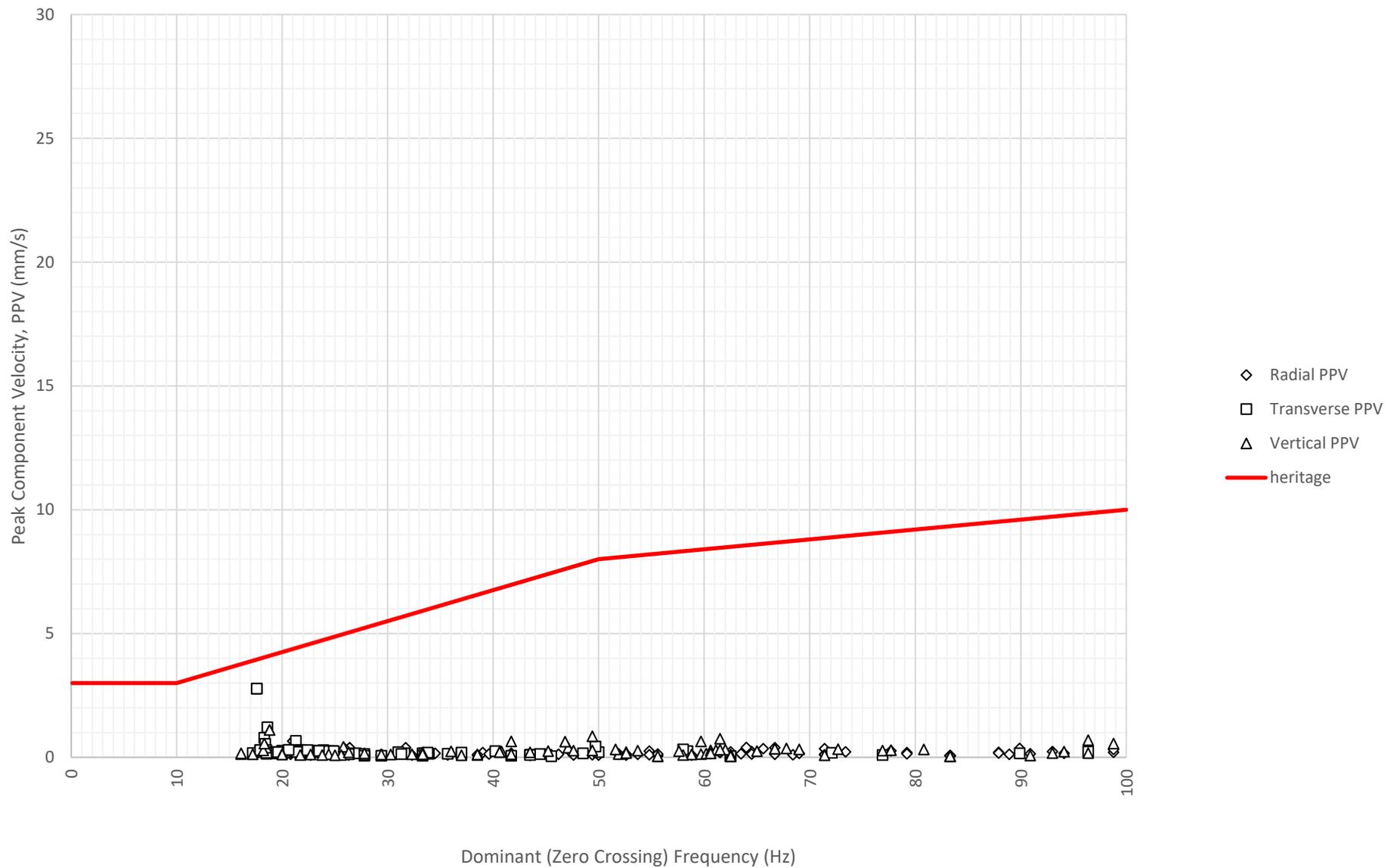
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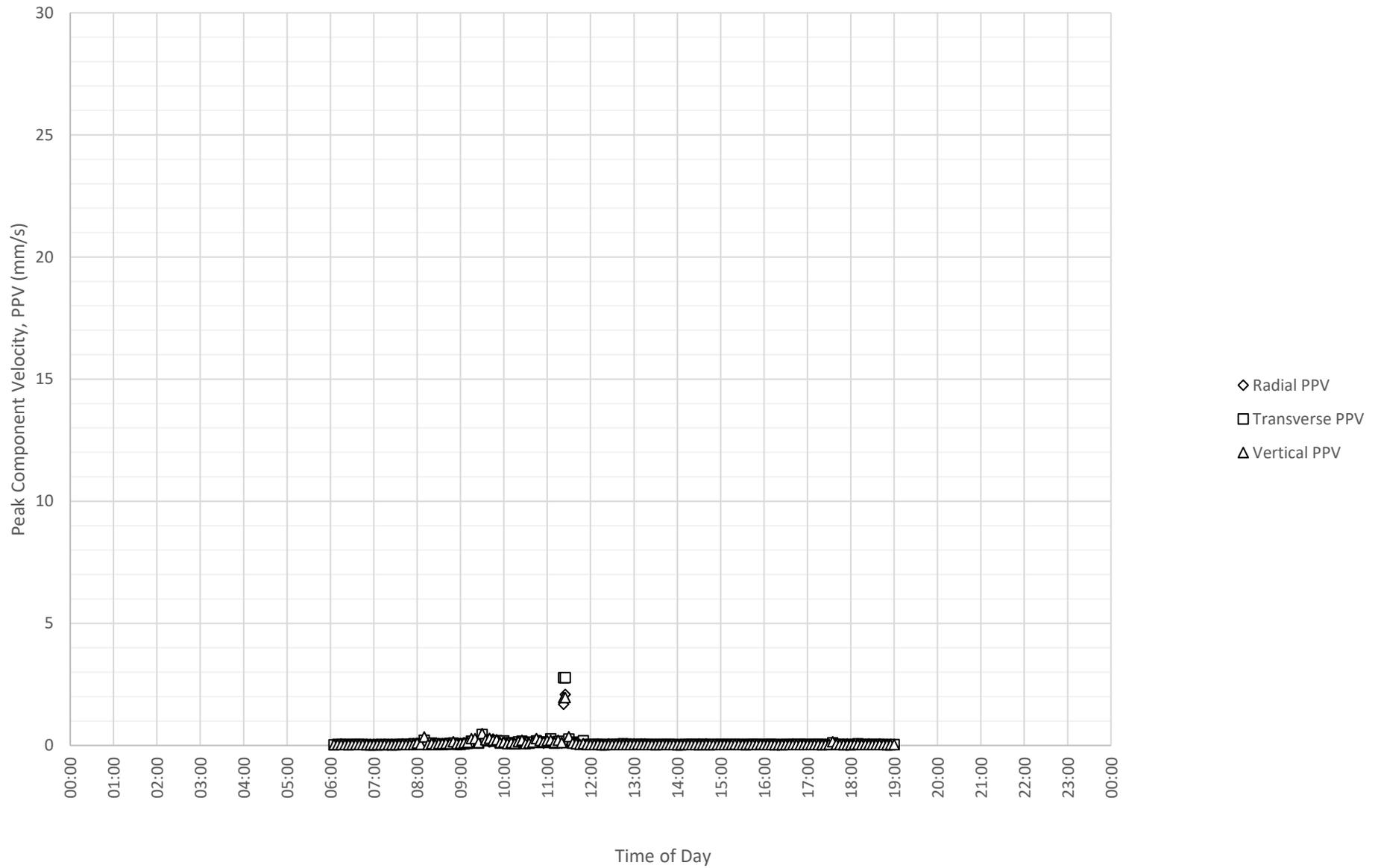
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 25-11-2022



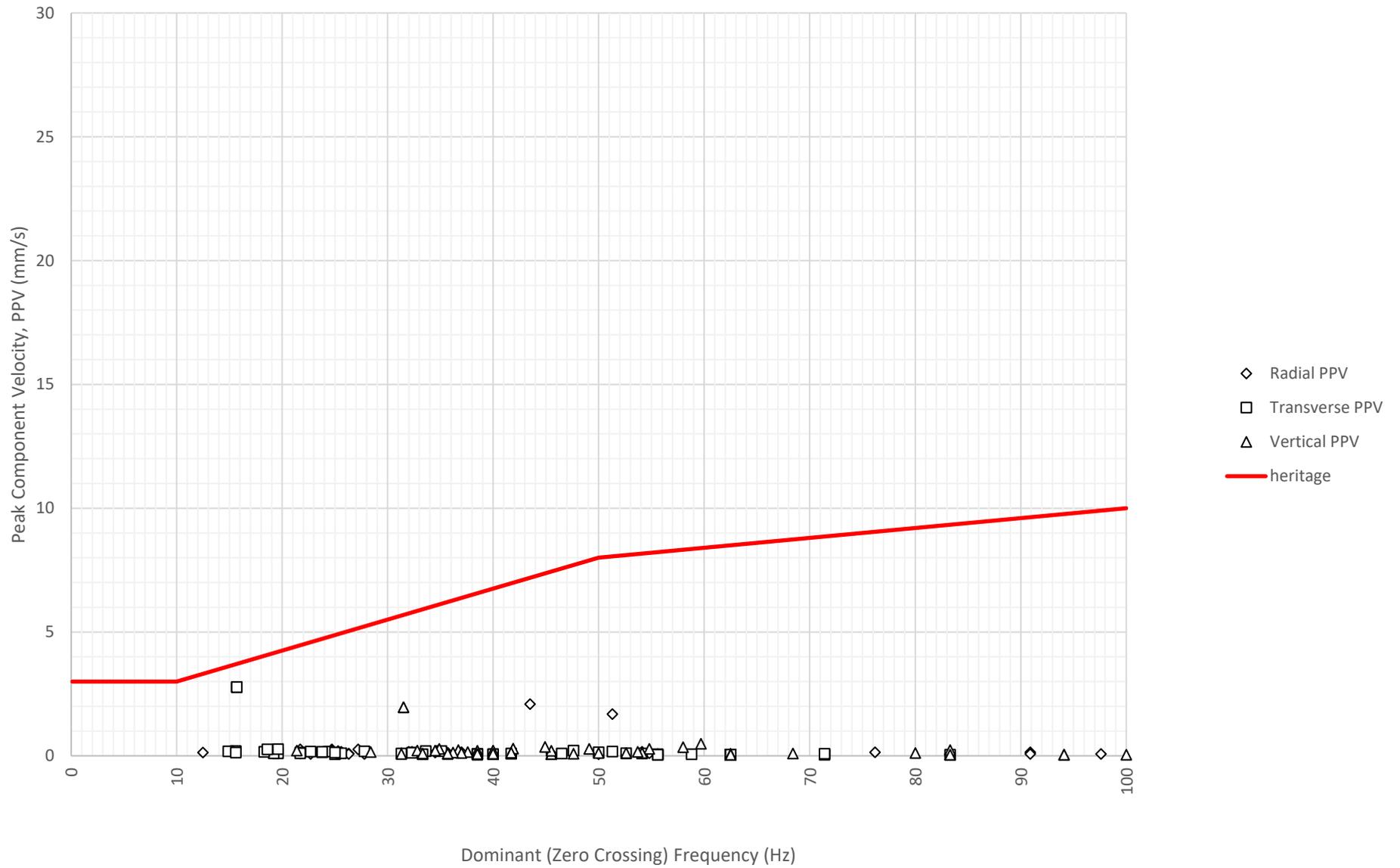
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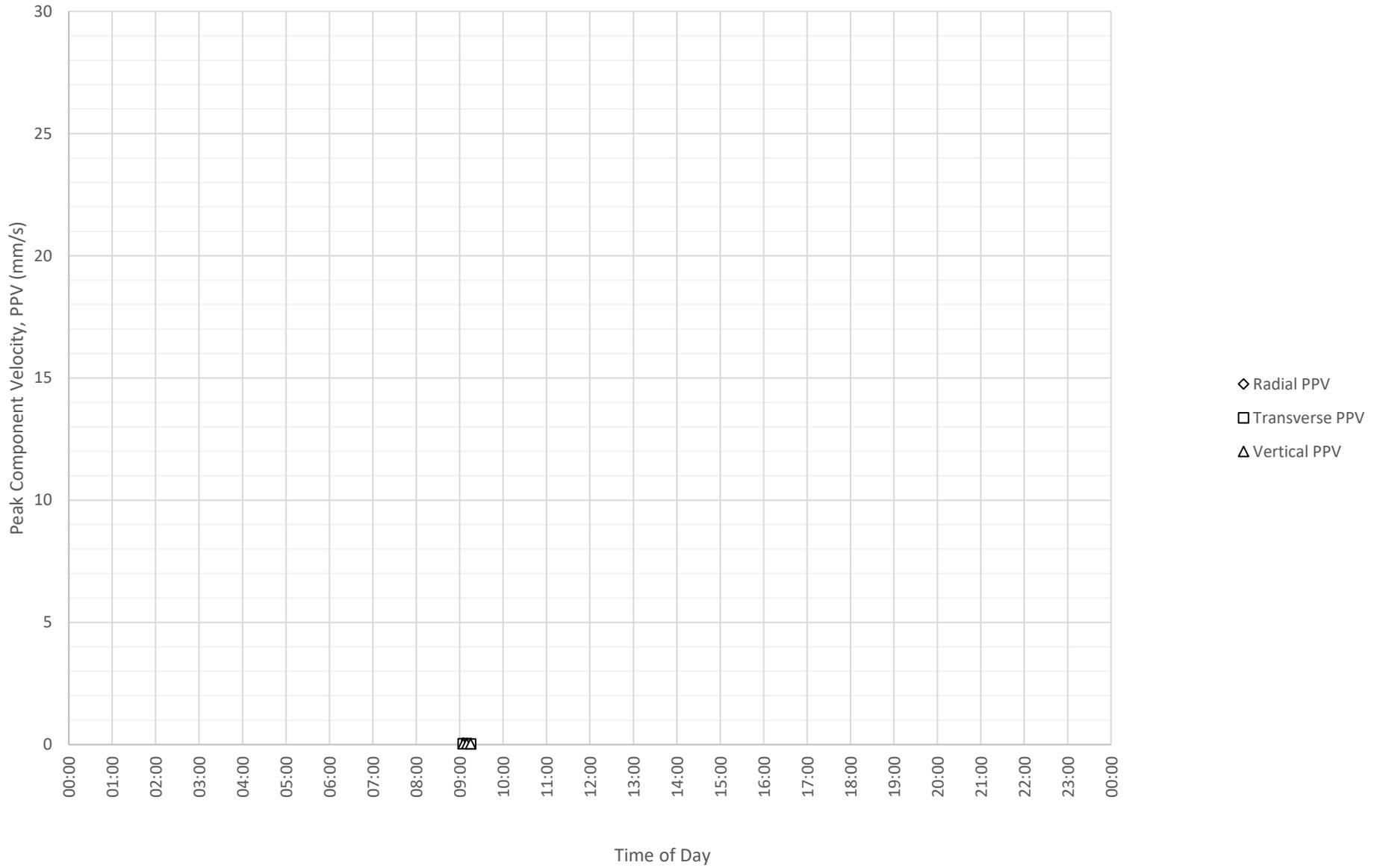
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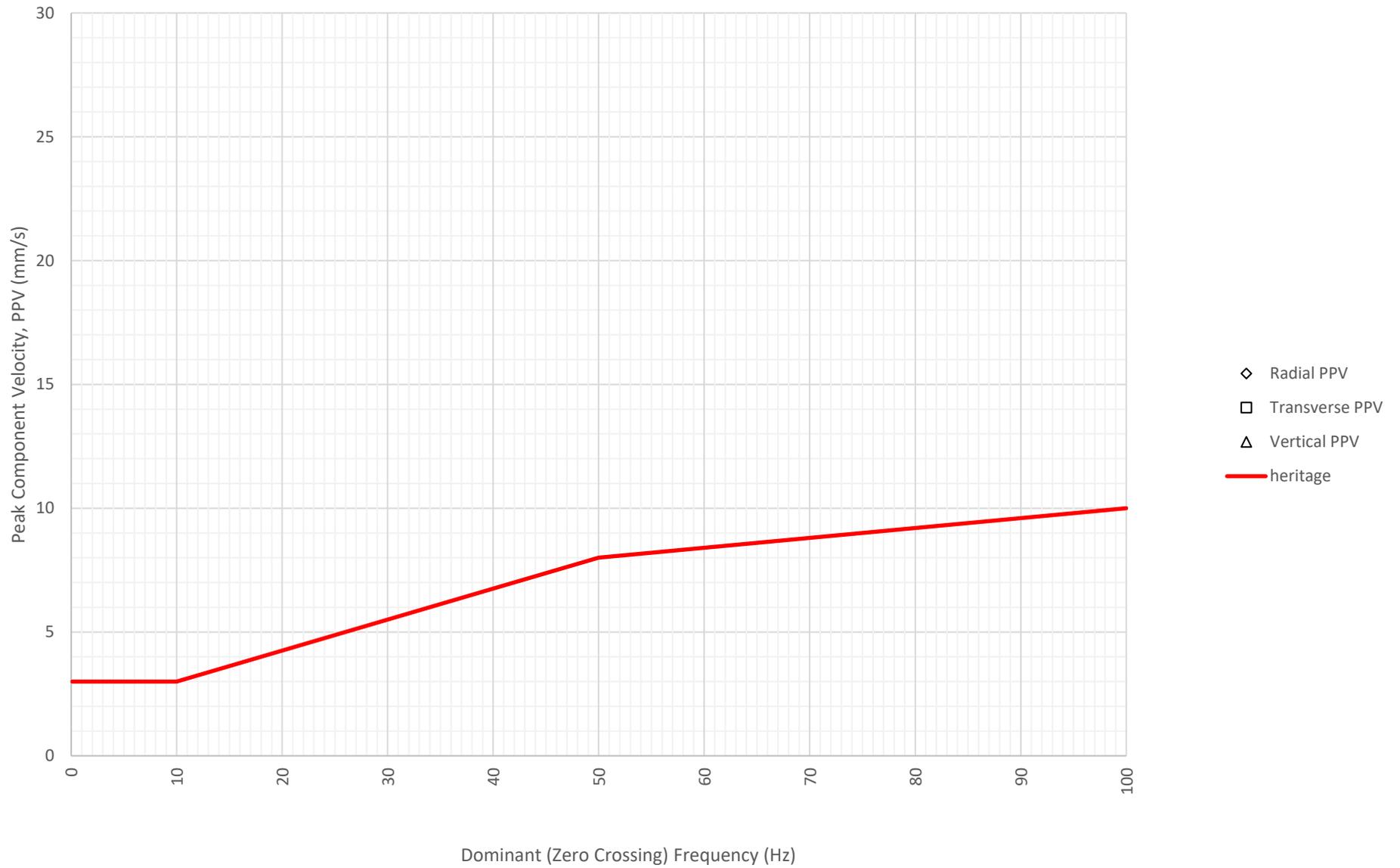
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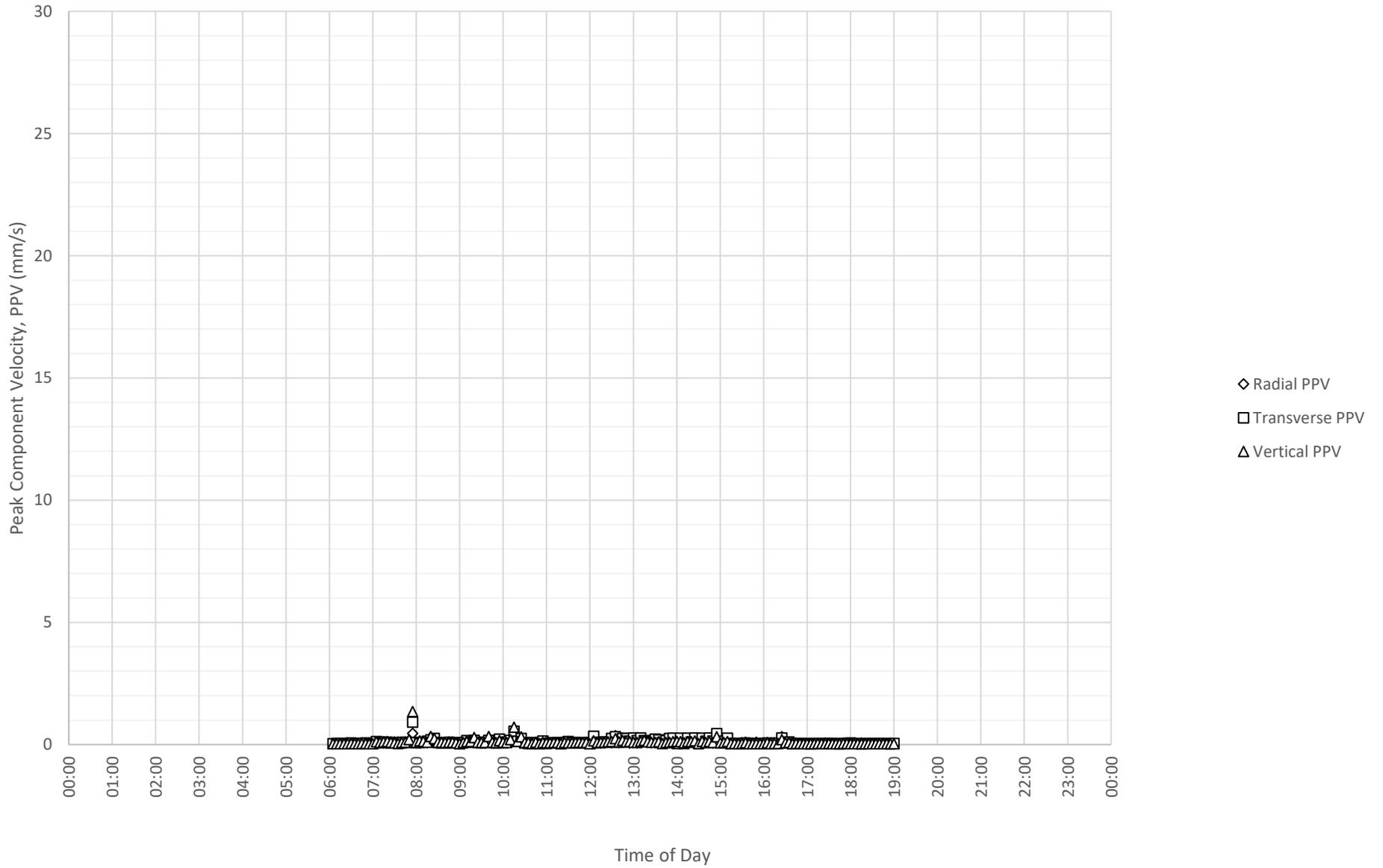
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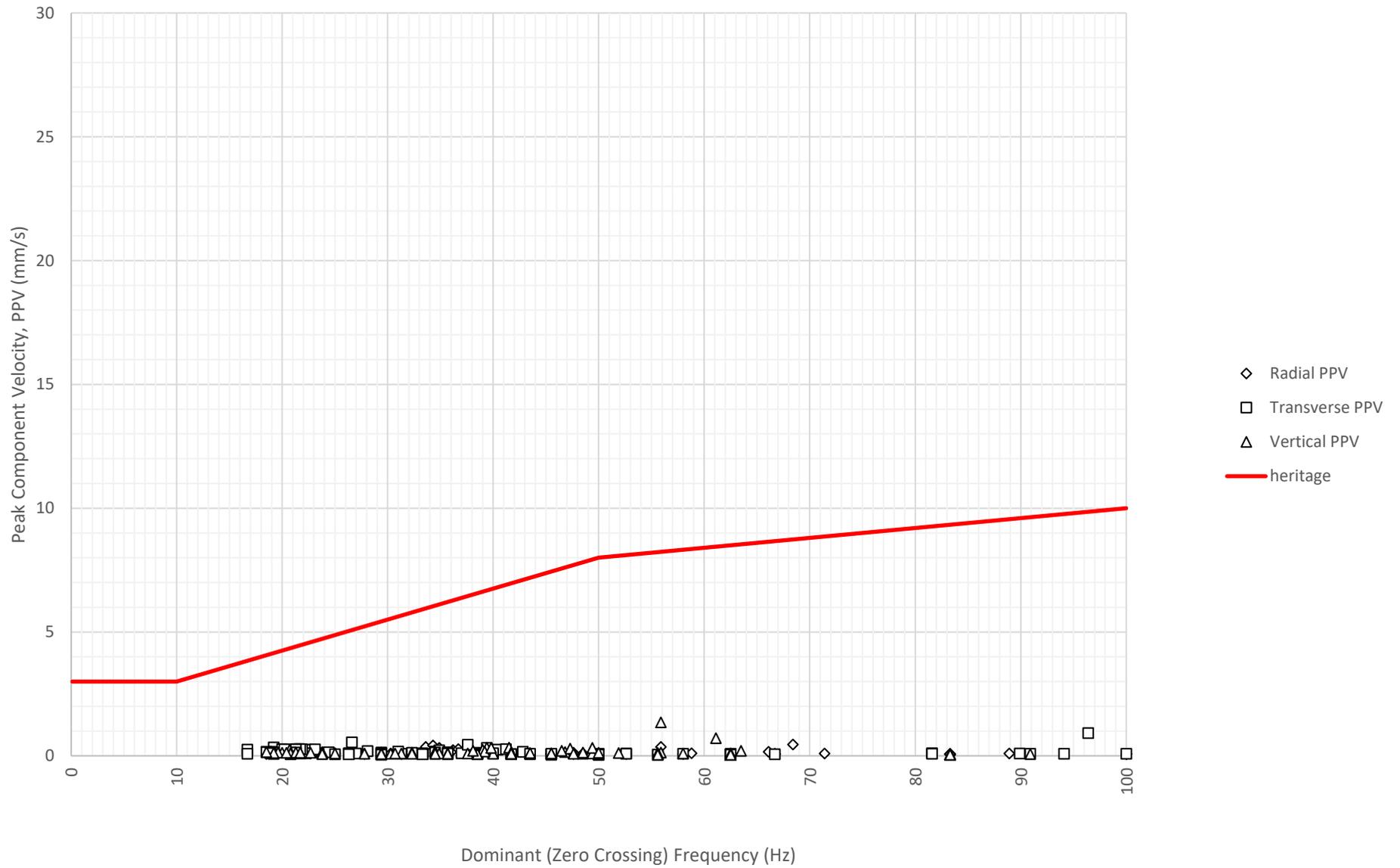
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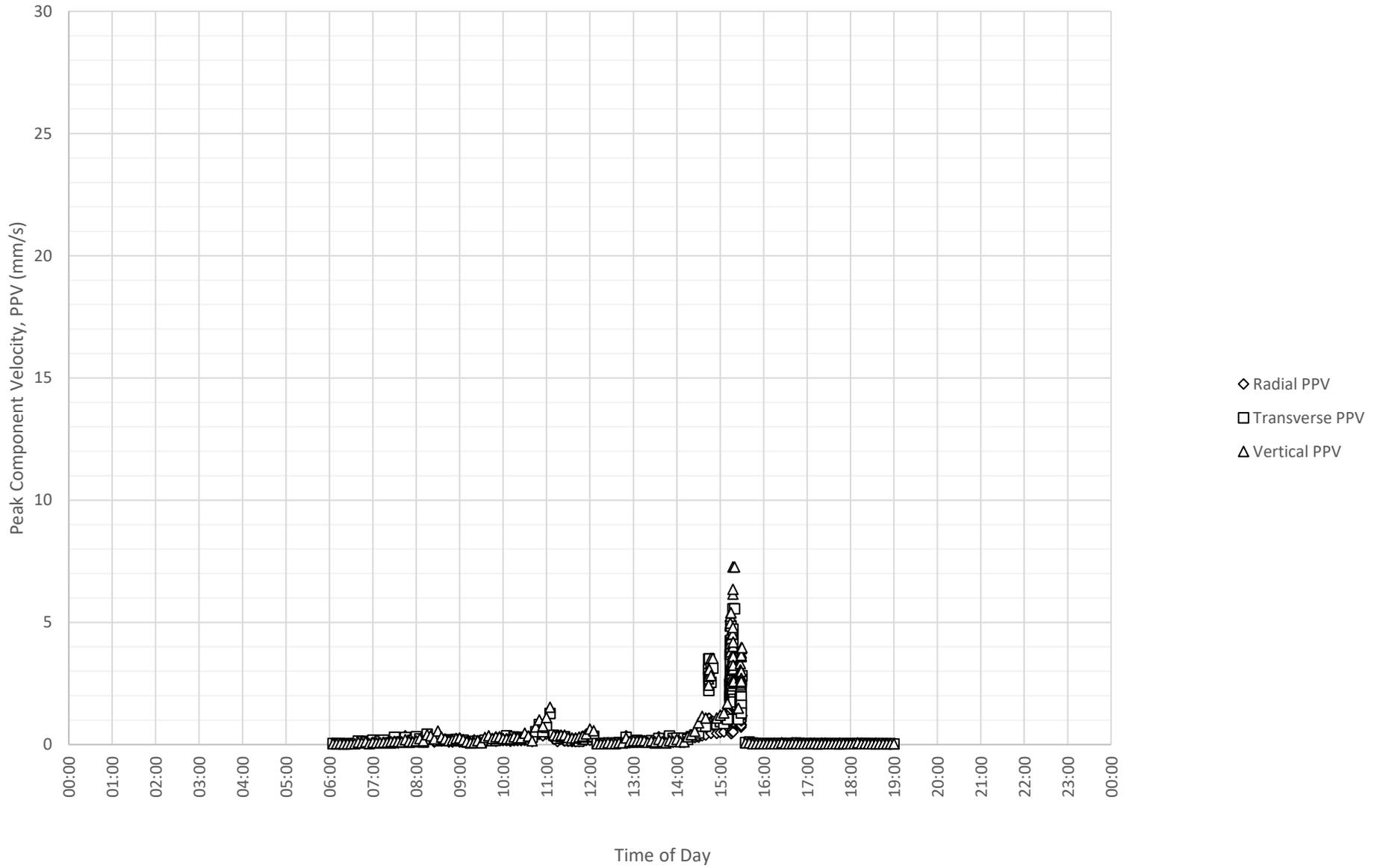
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 28-11-2022



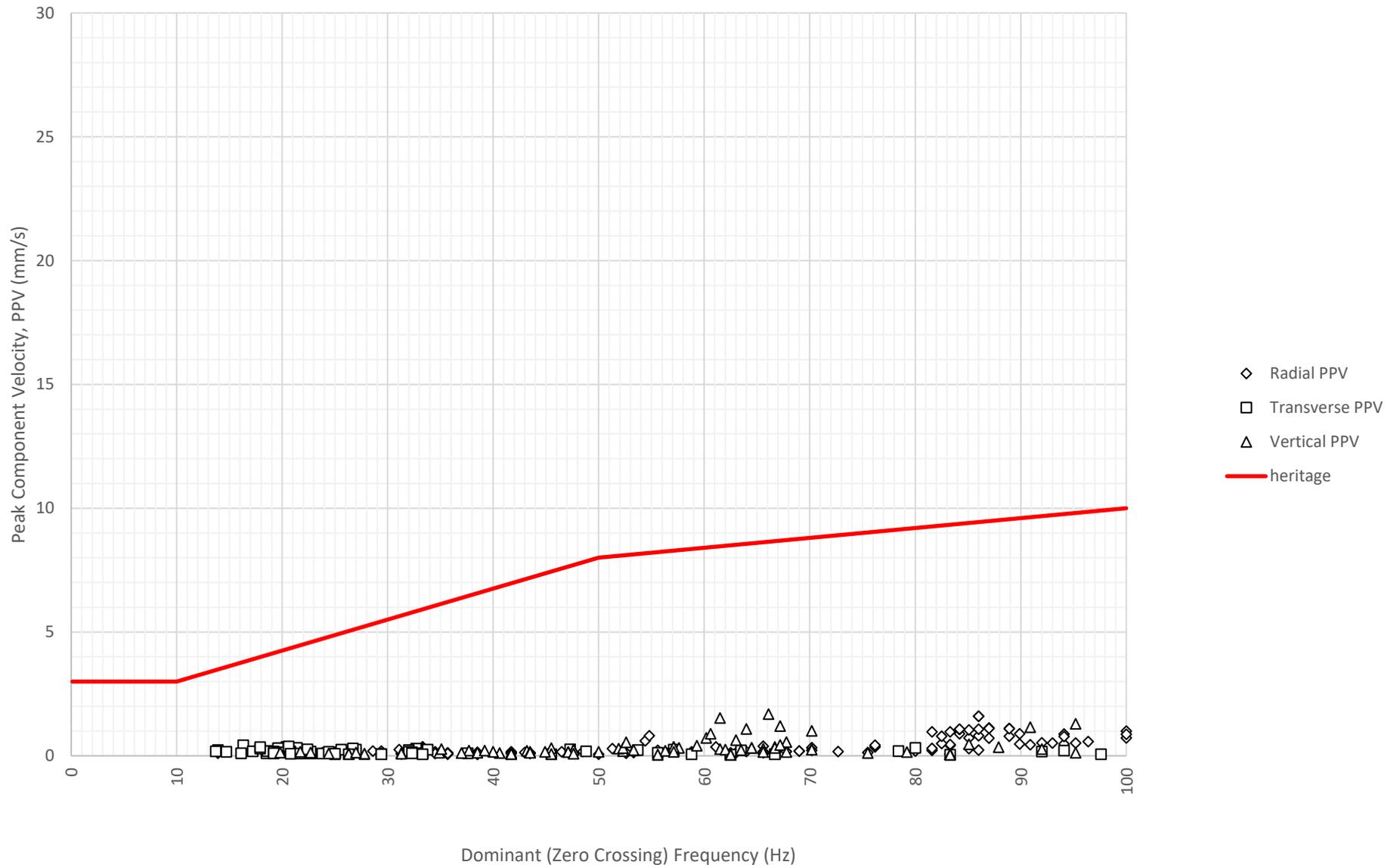
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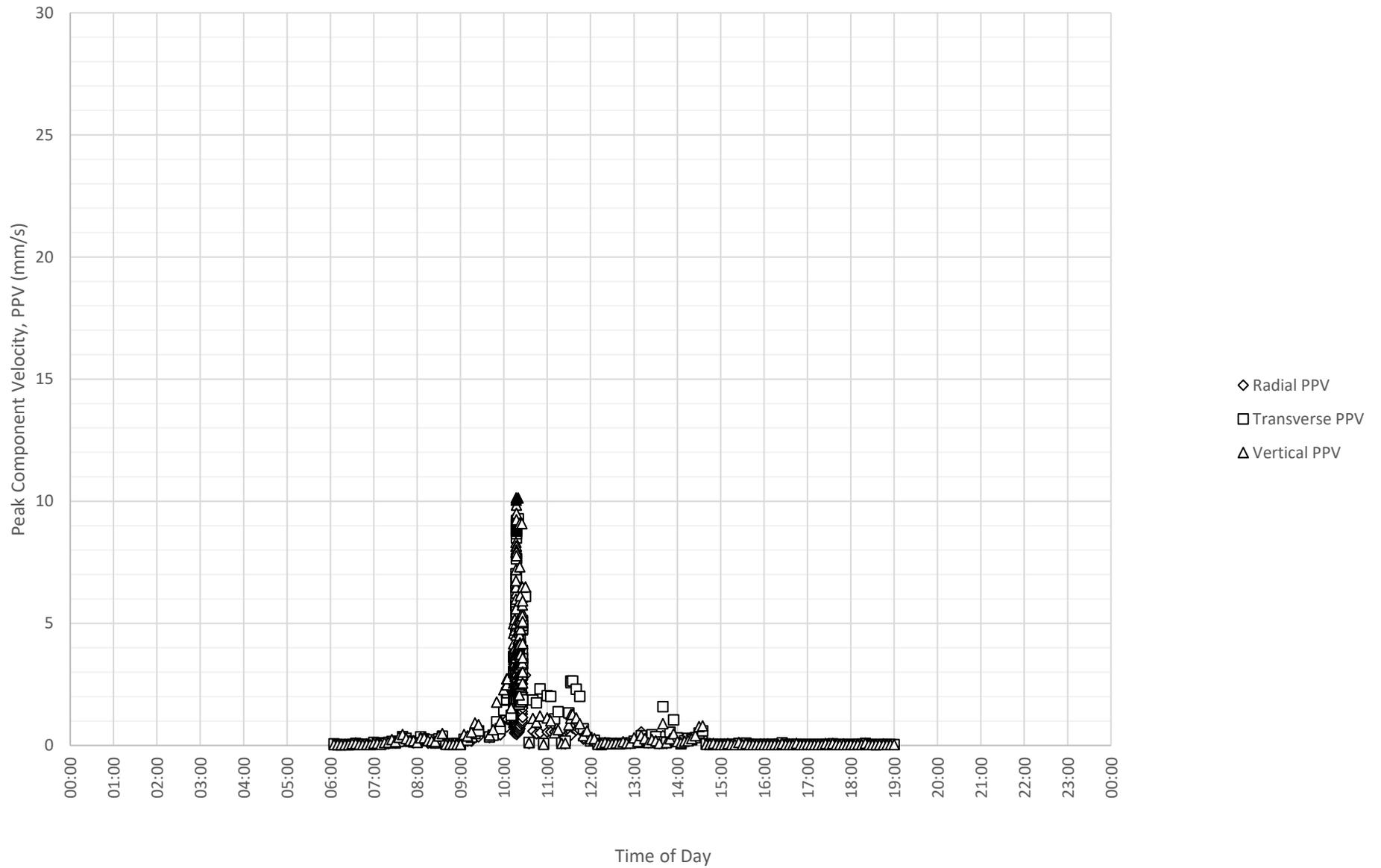
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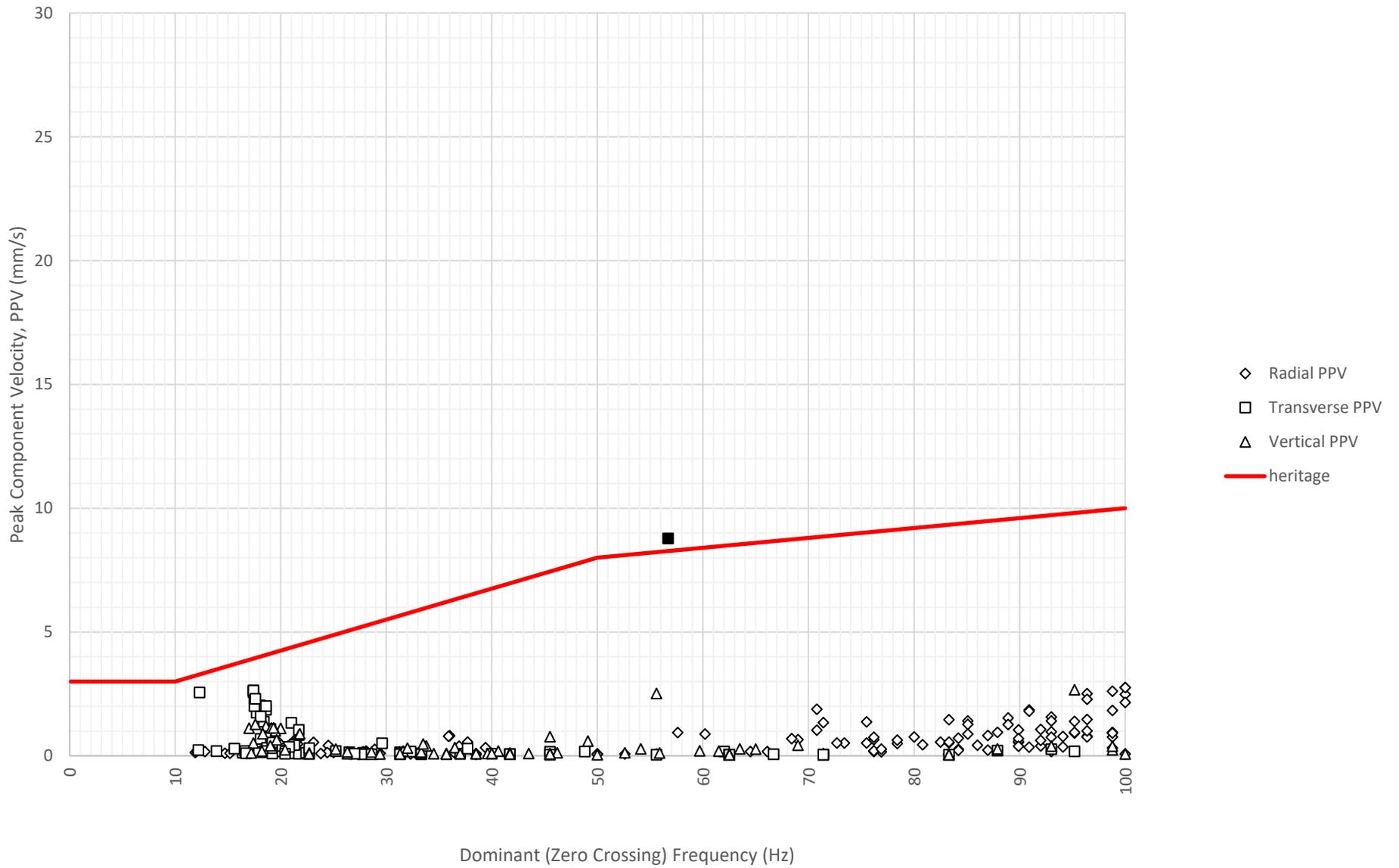
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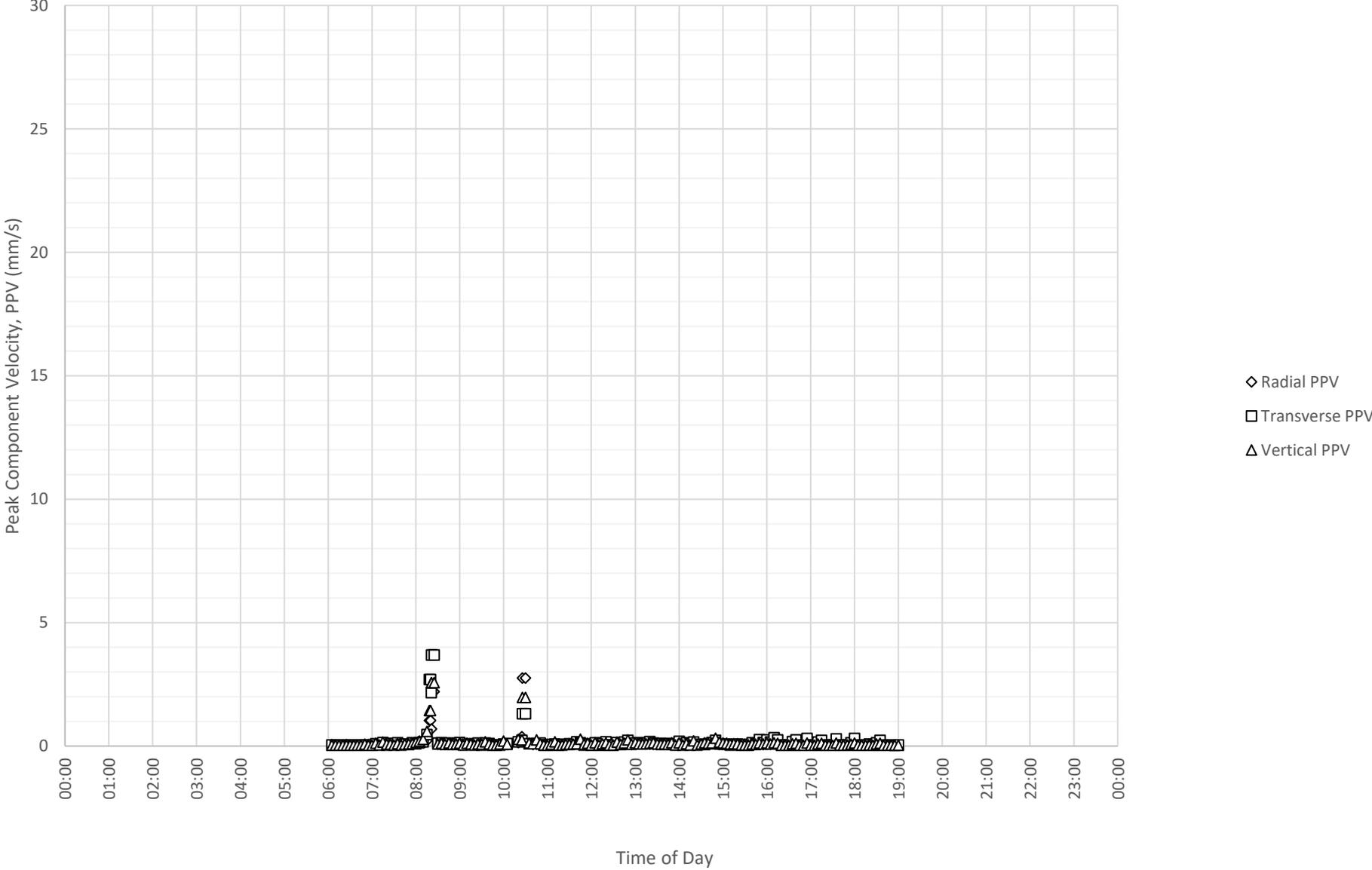
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 30-11-2022



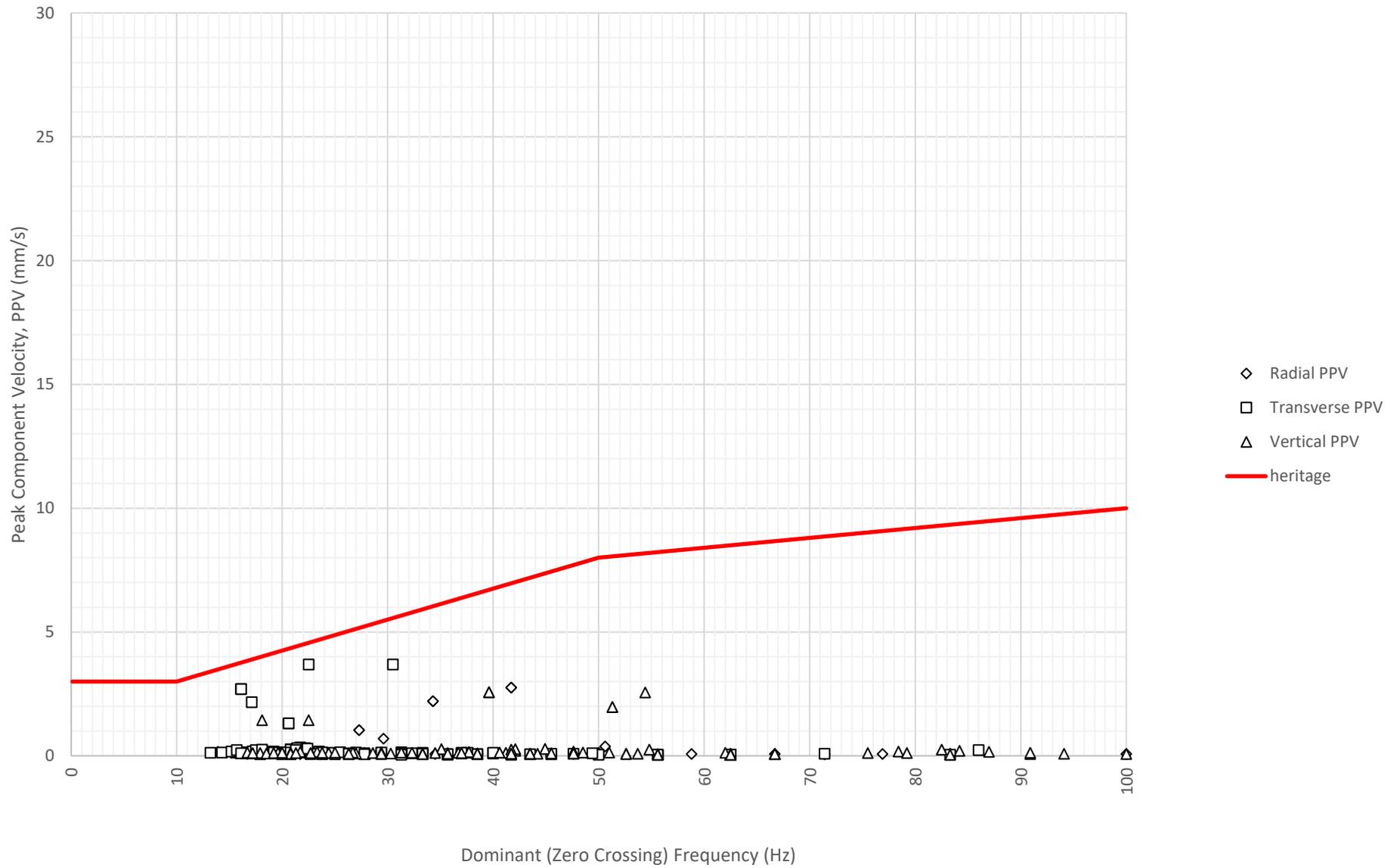
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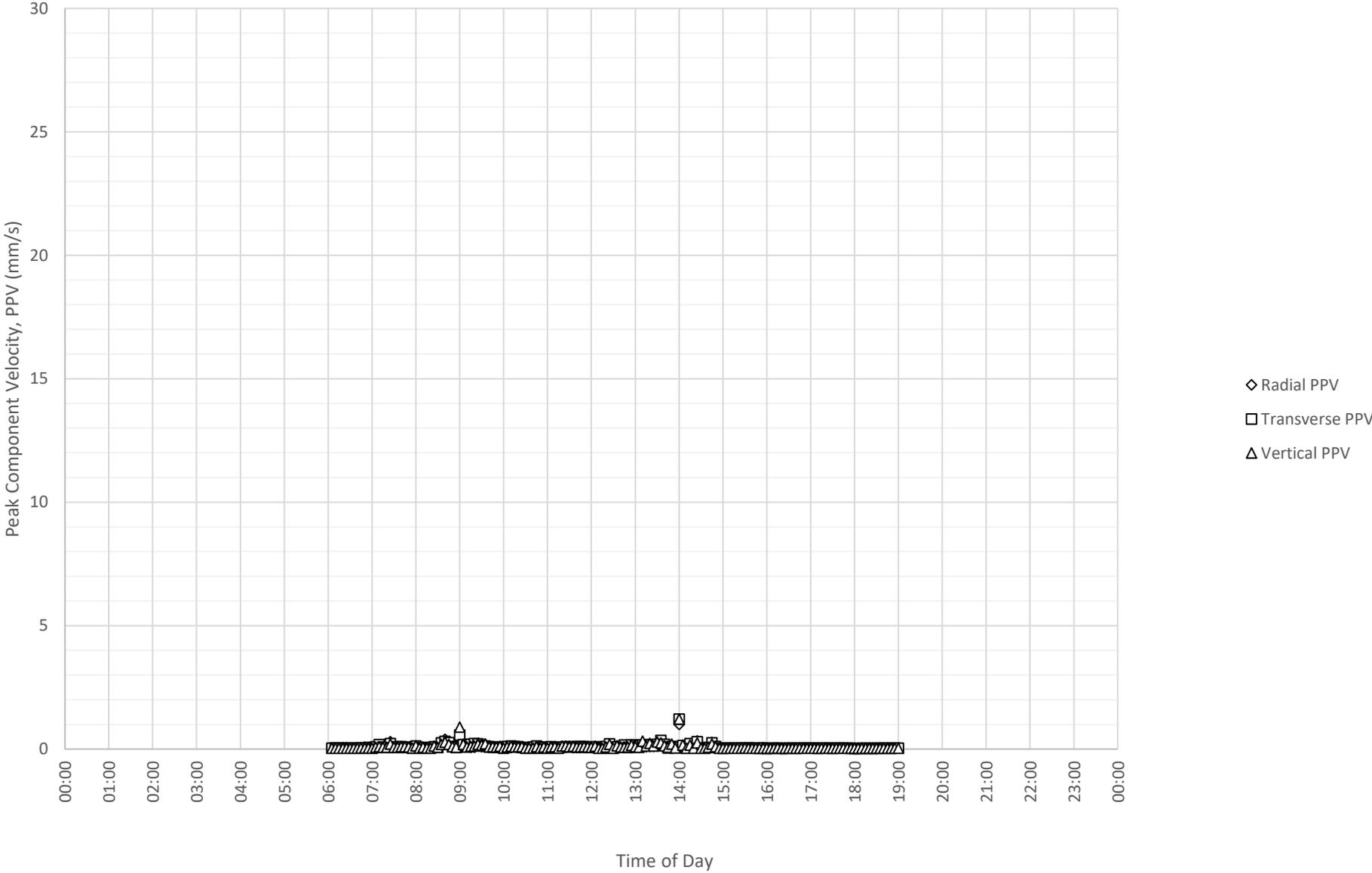
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 1-12-2022



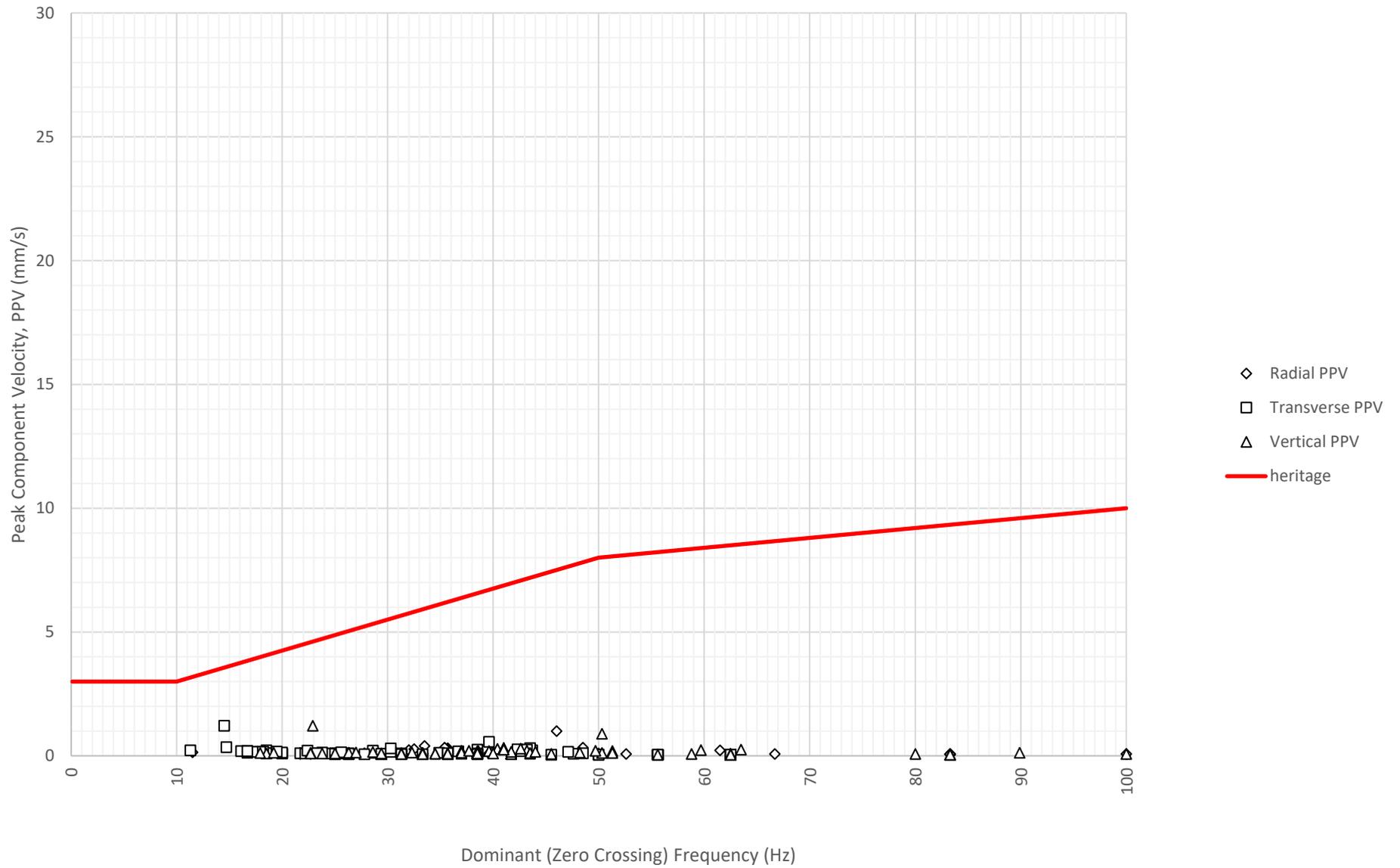
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 1-12-2022



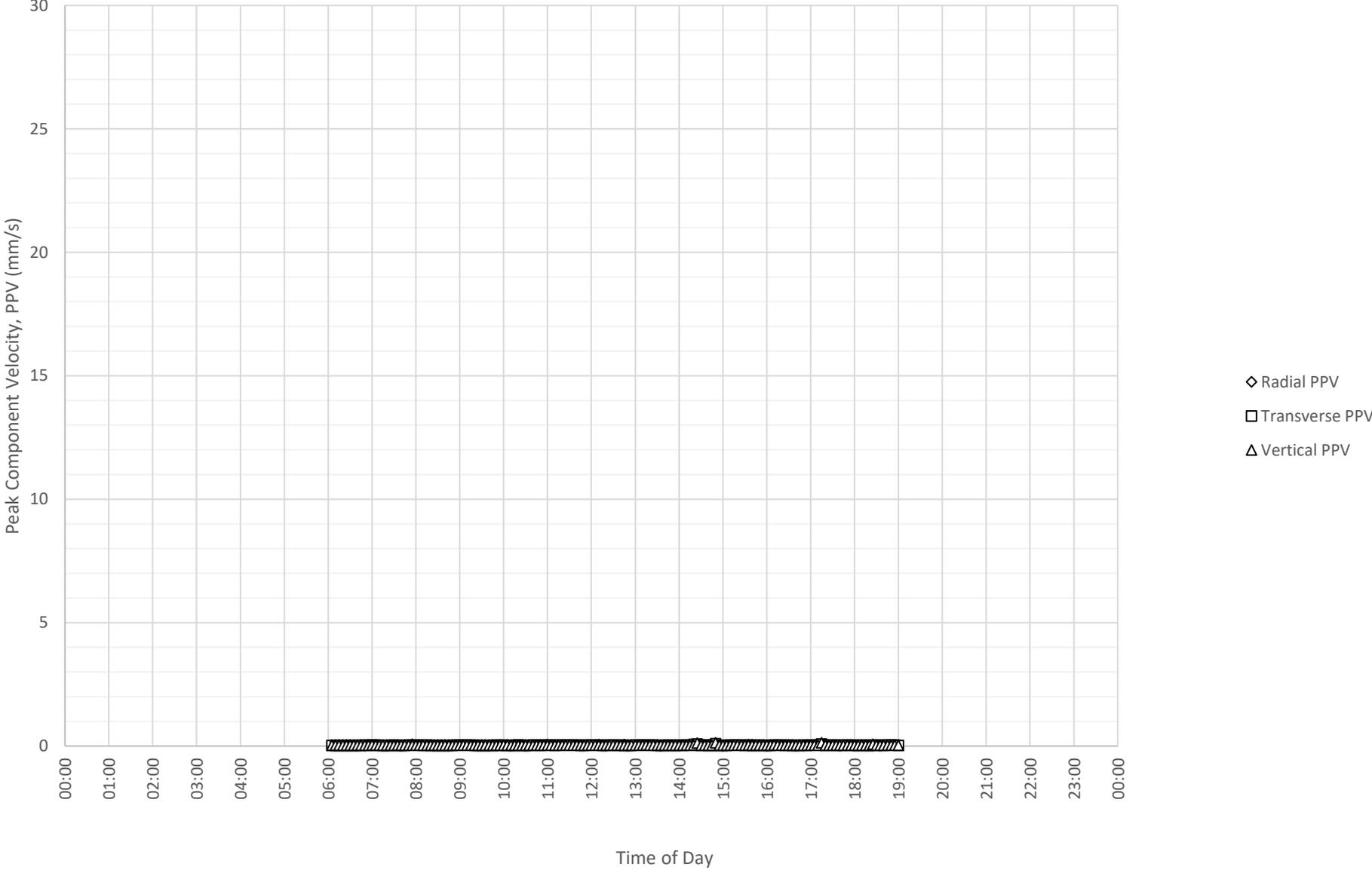
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 2-12-2022



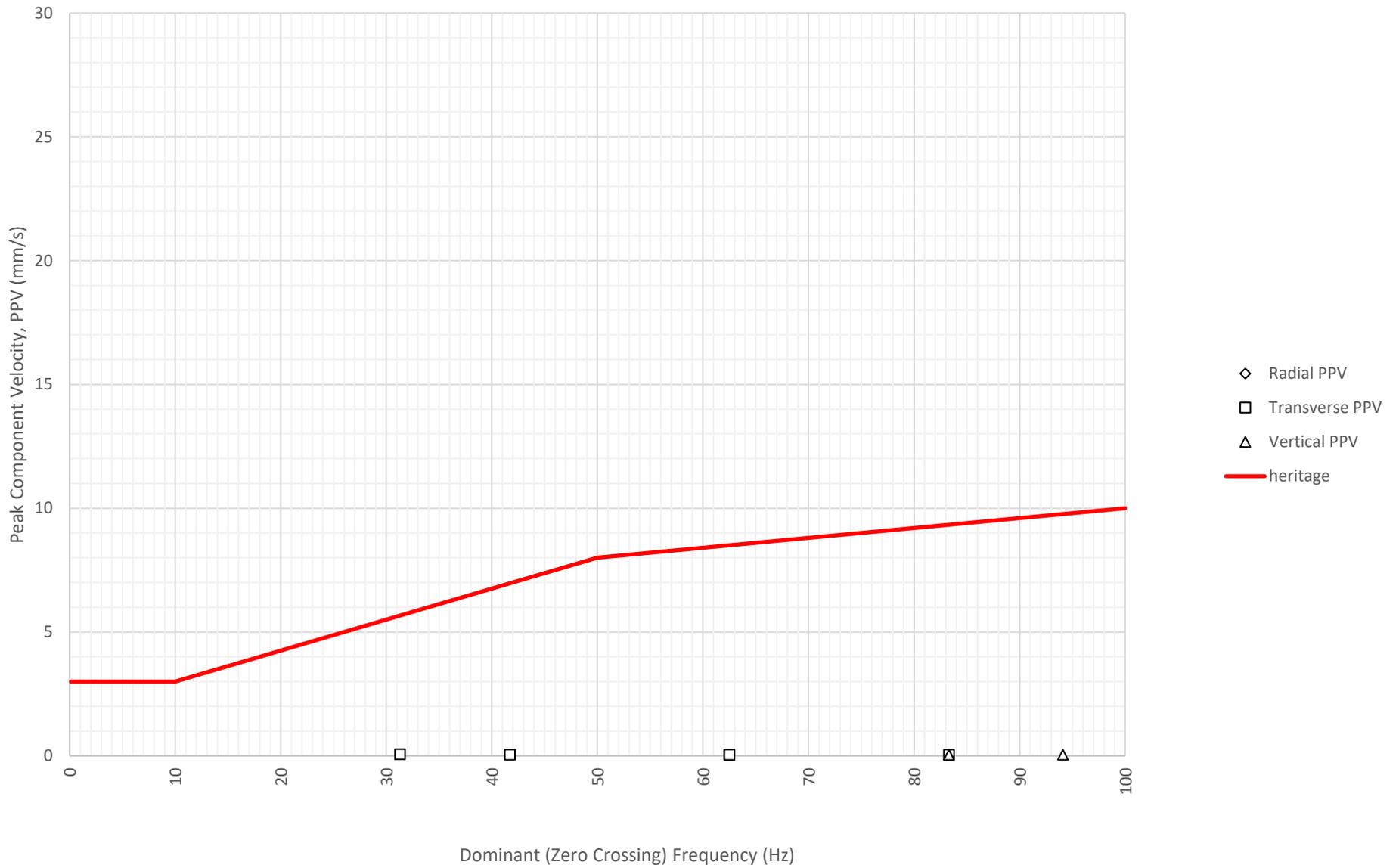
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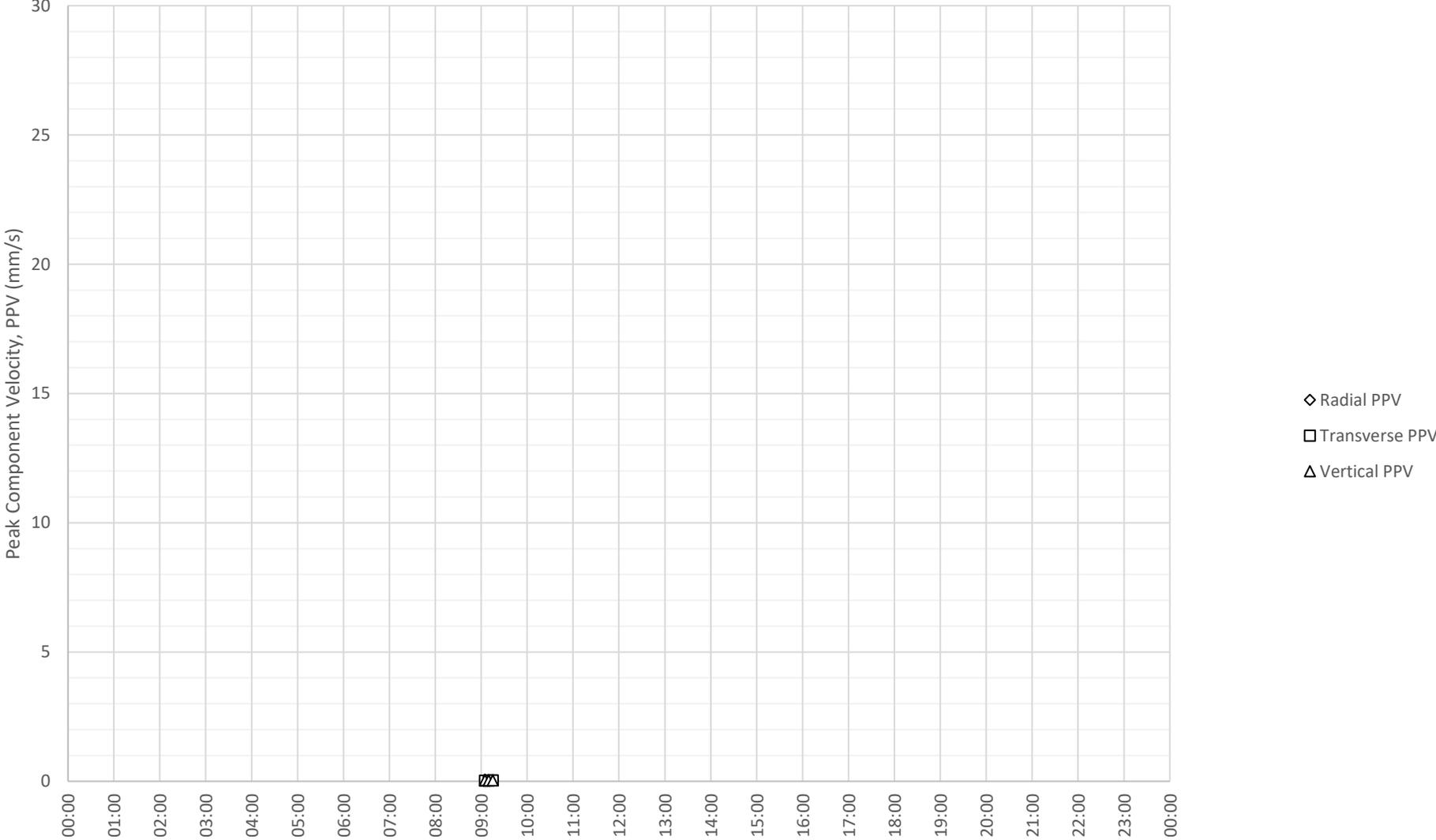
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Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 3-12-2022

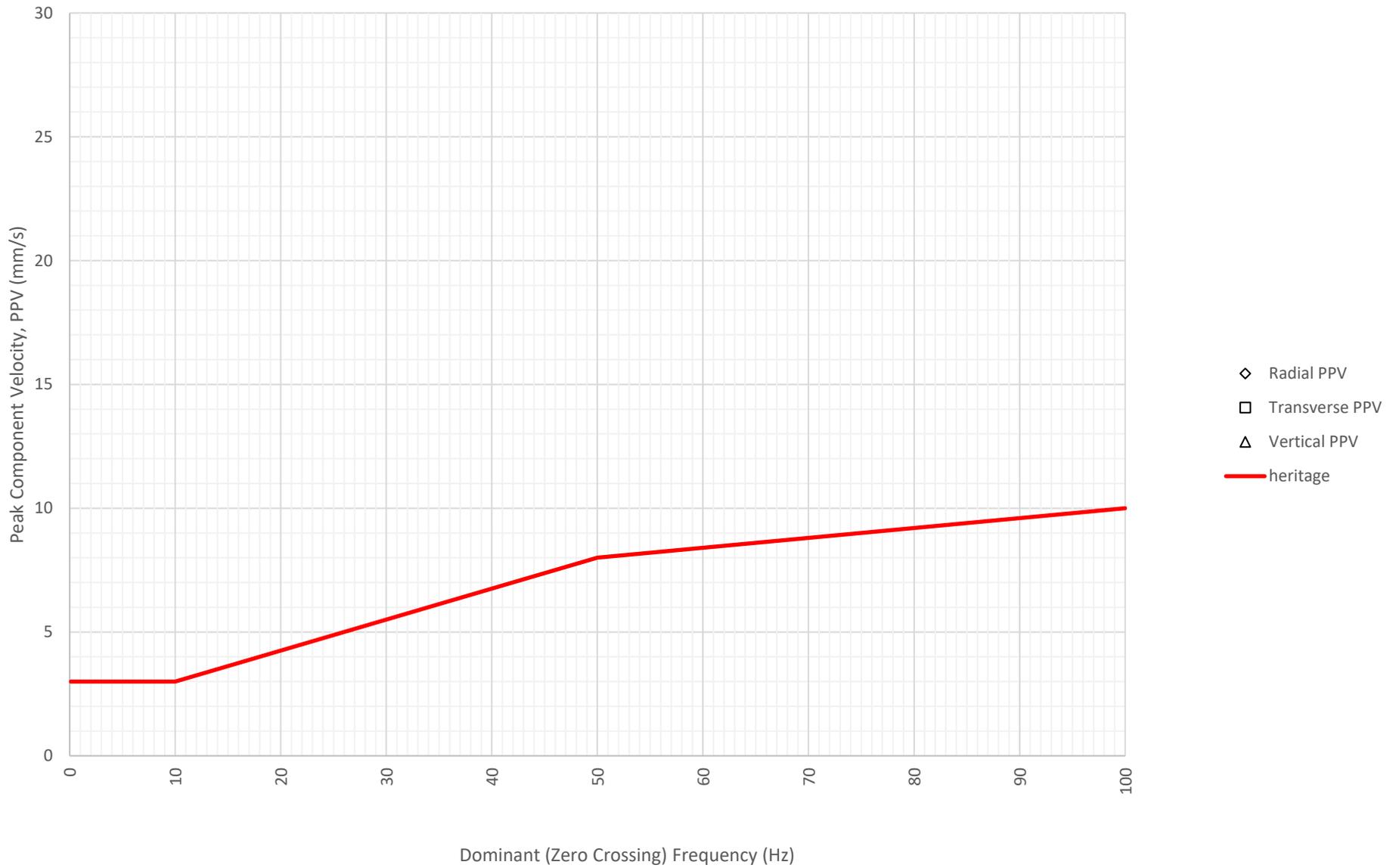


Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 4-12-2022

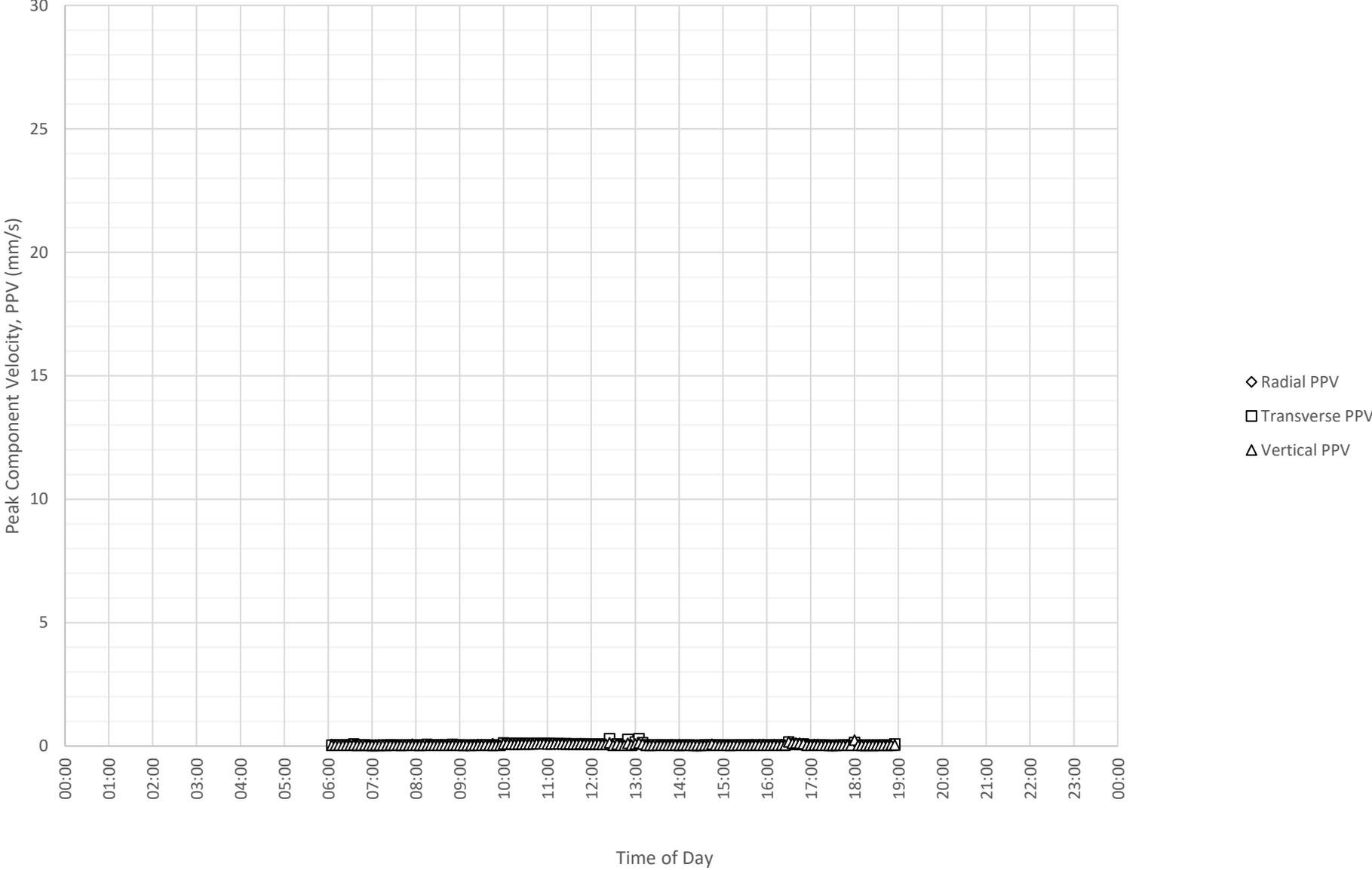


Time of Day

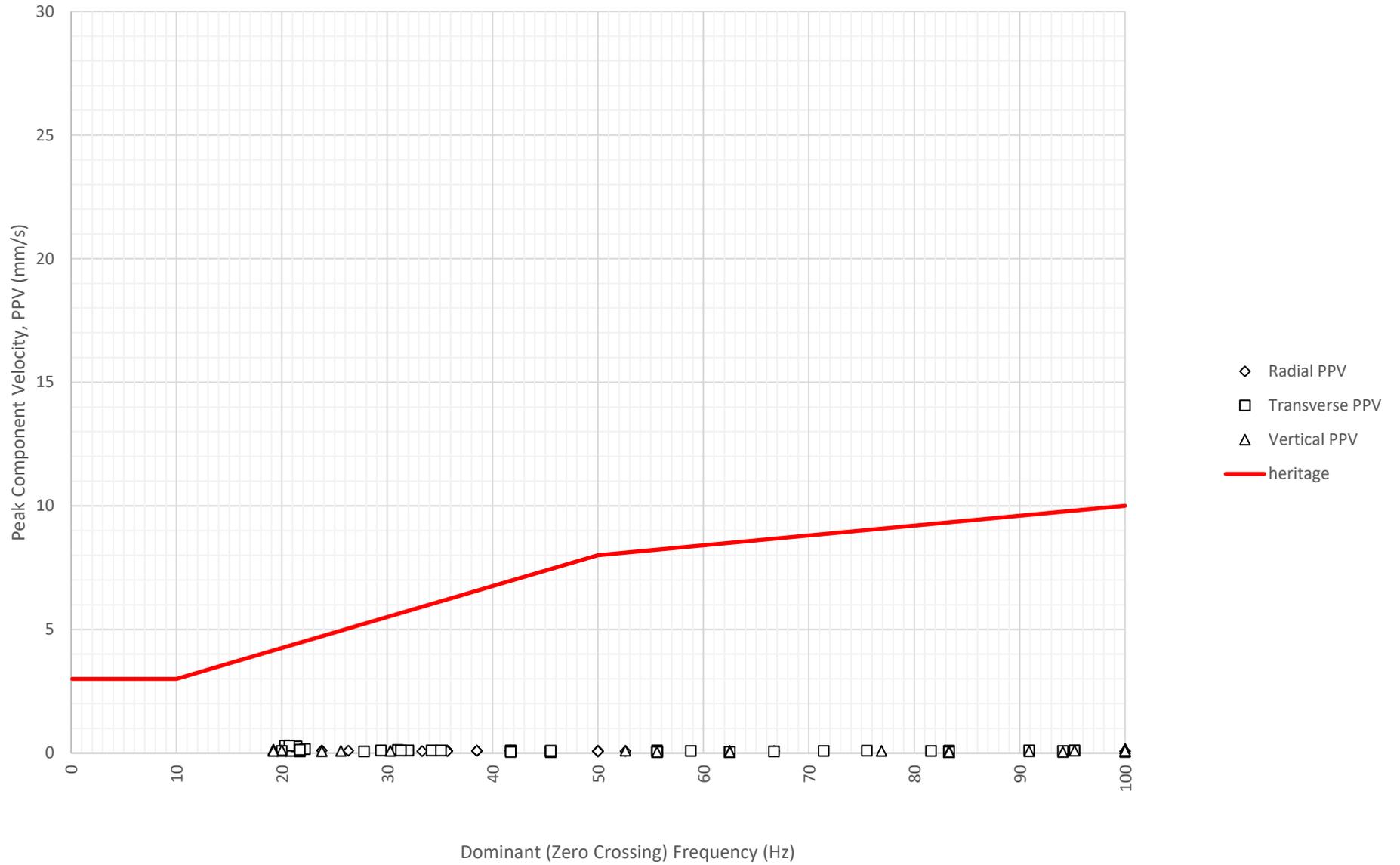
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 4-12-2022



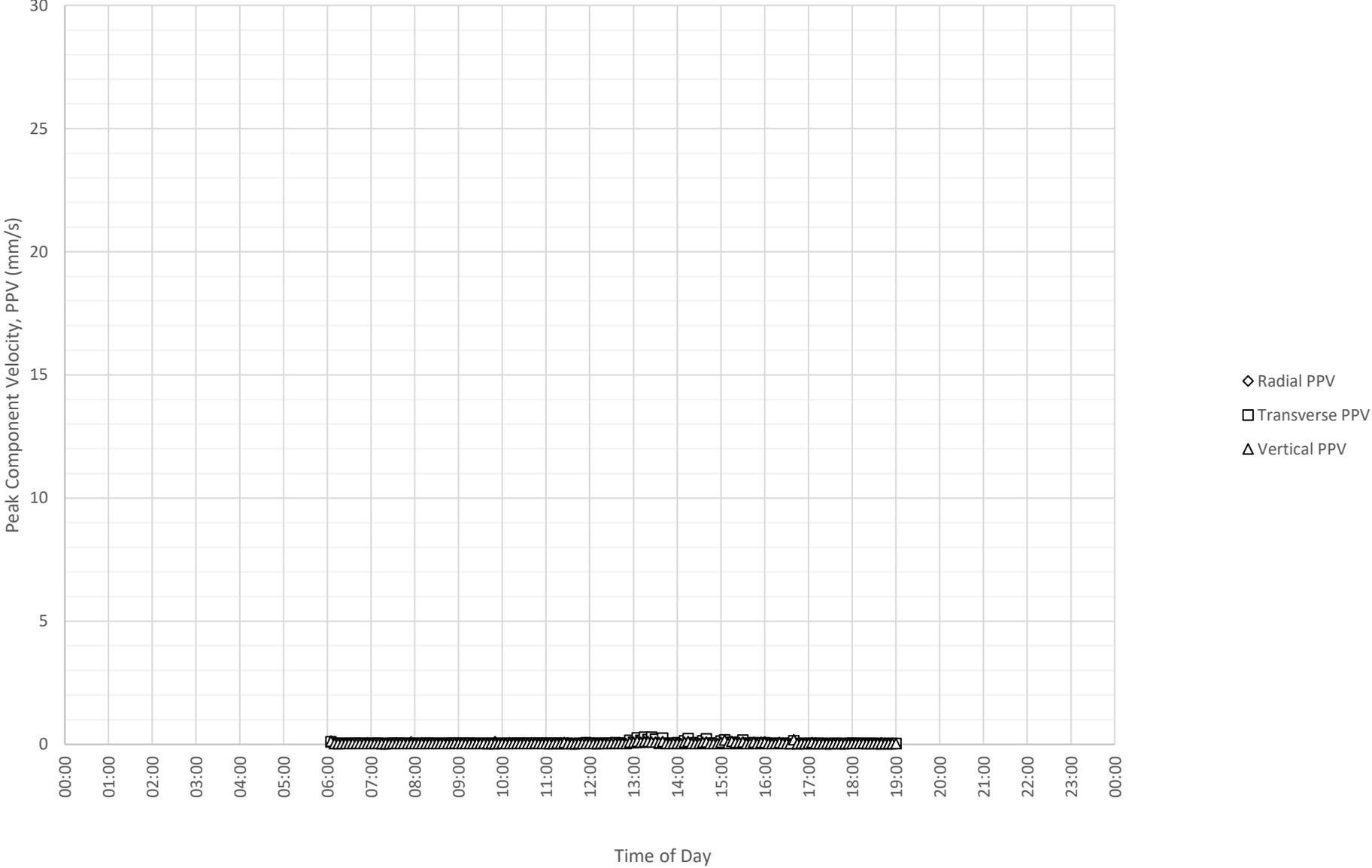
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 5-12-2022



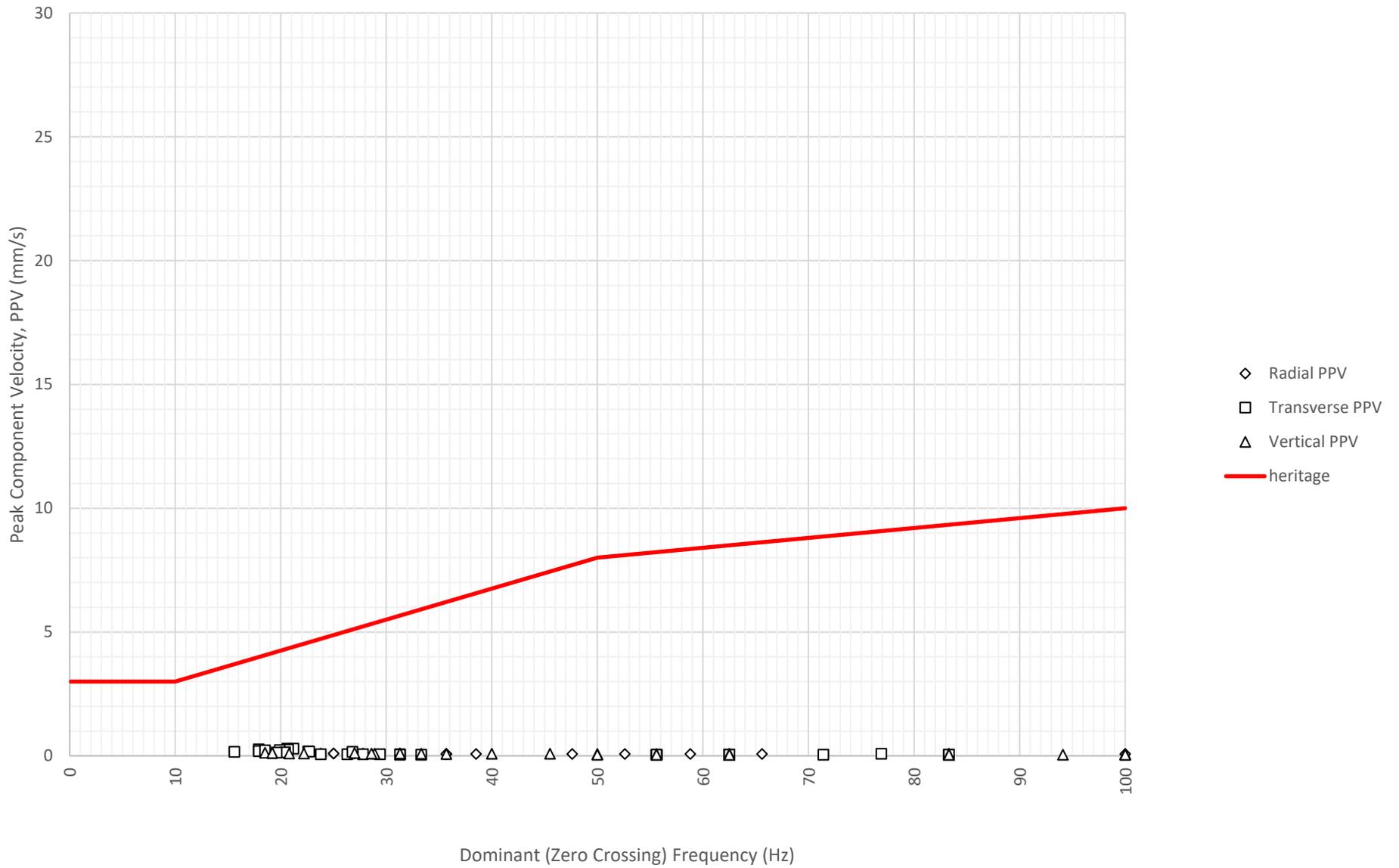
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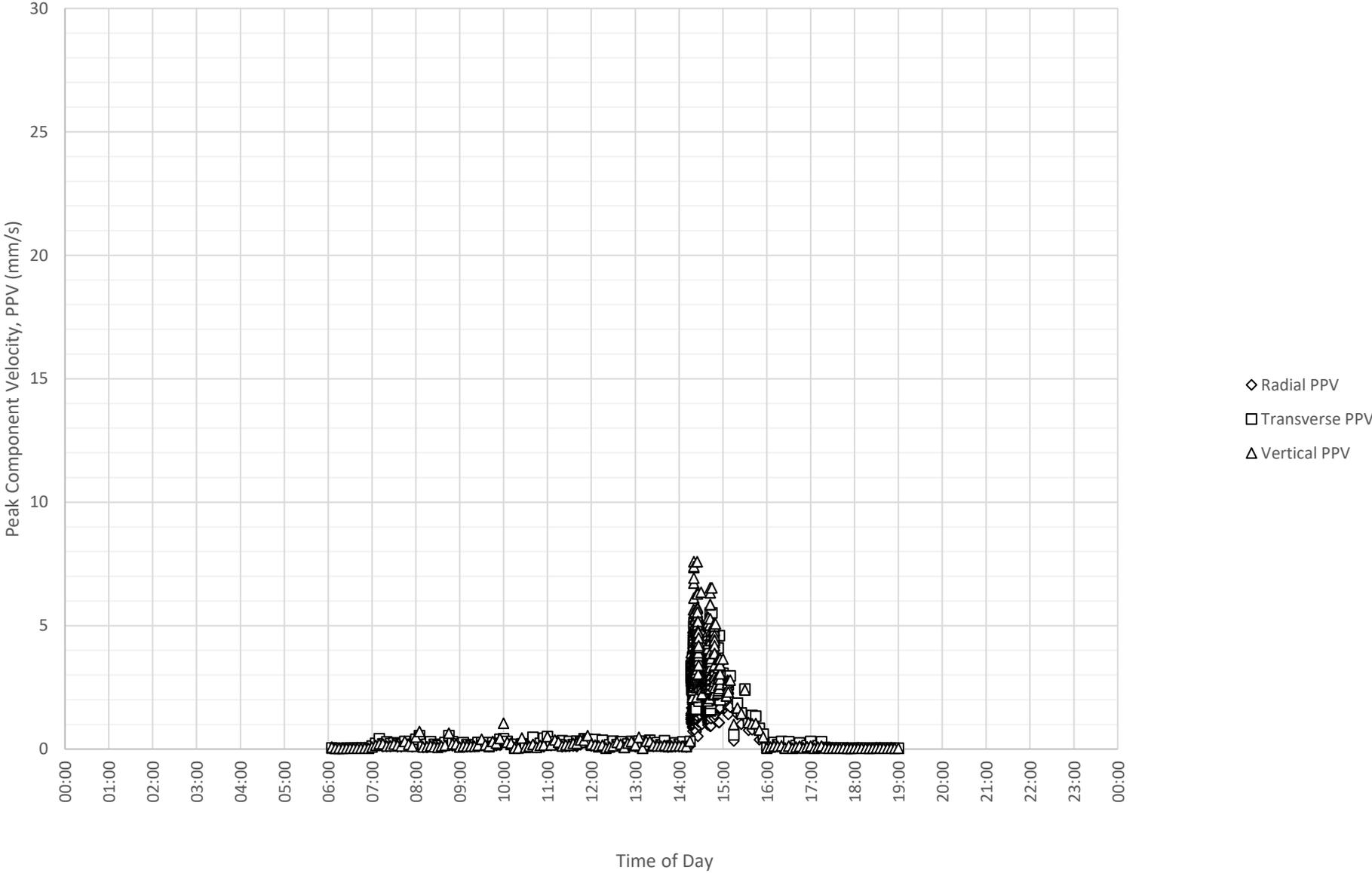
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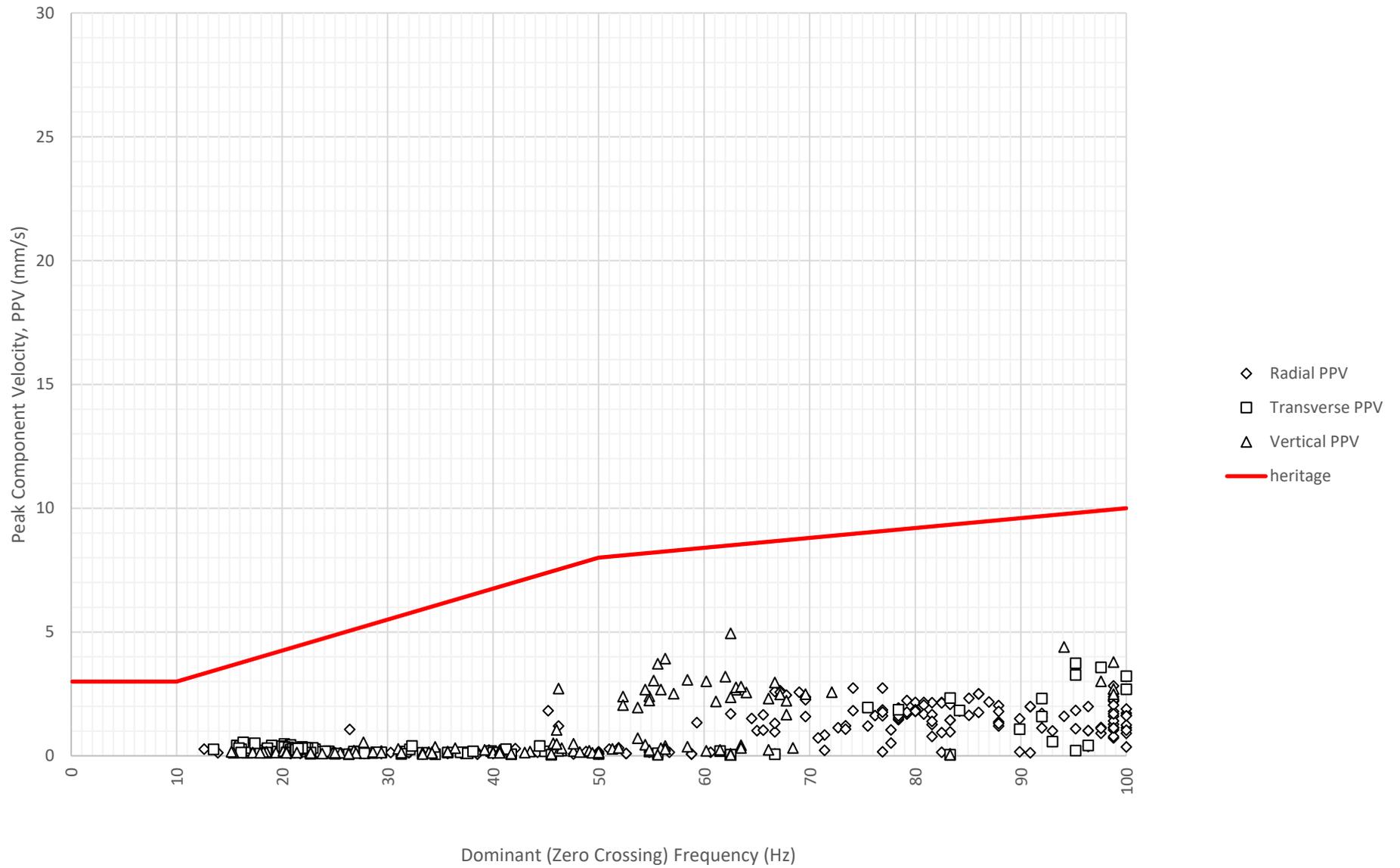
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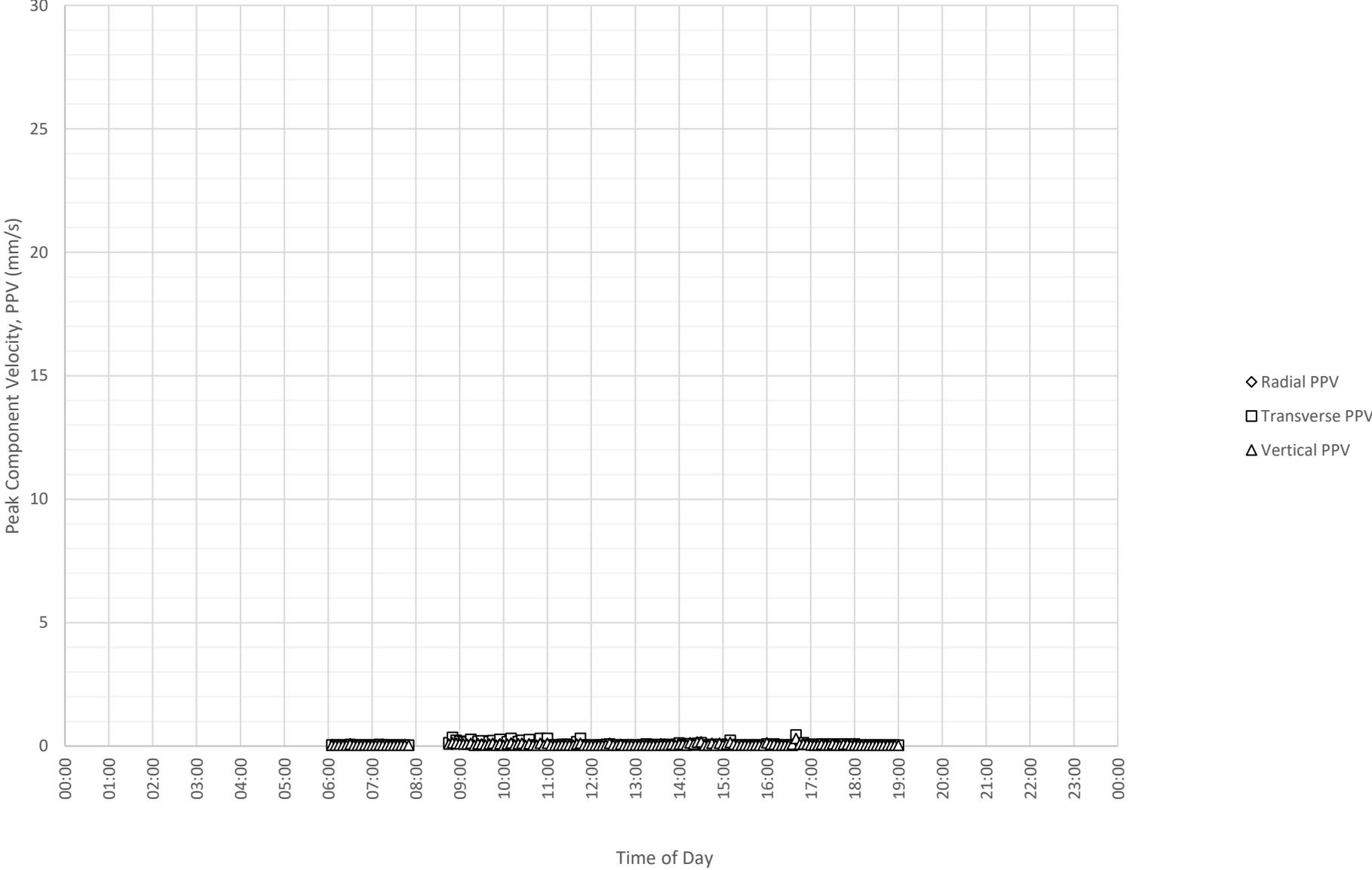
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 7-12-2022



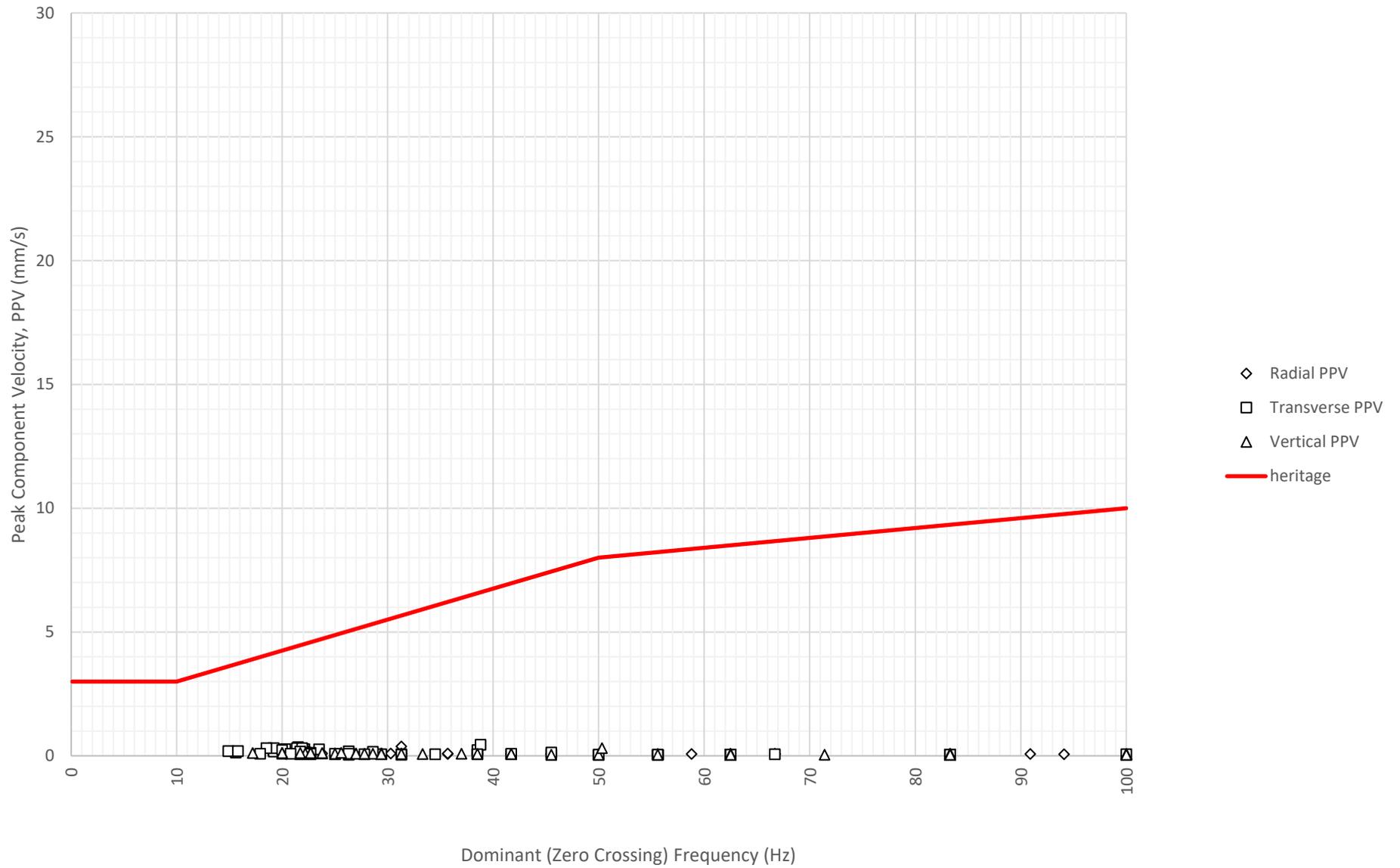
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 7-12-2022



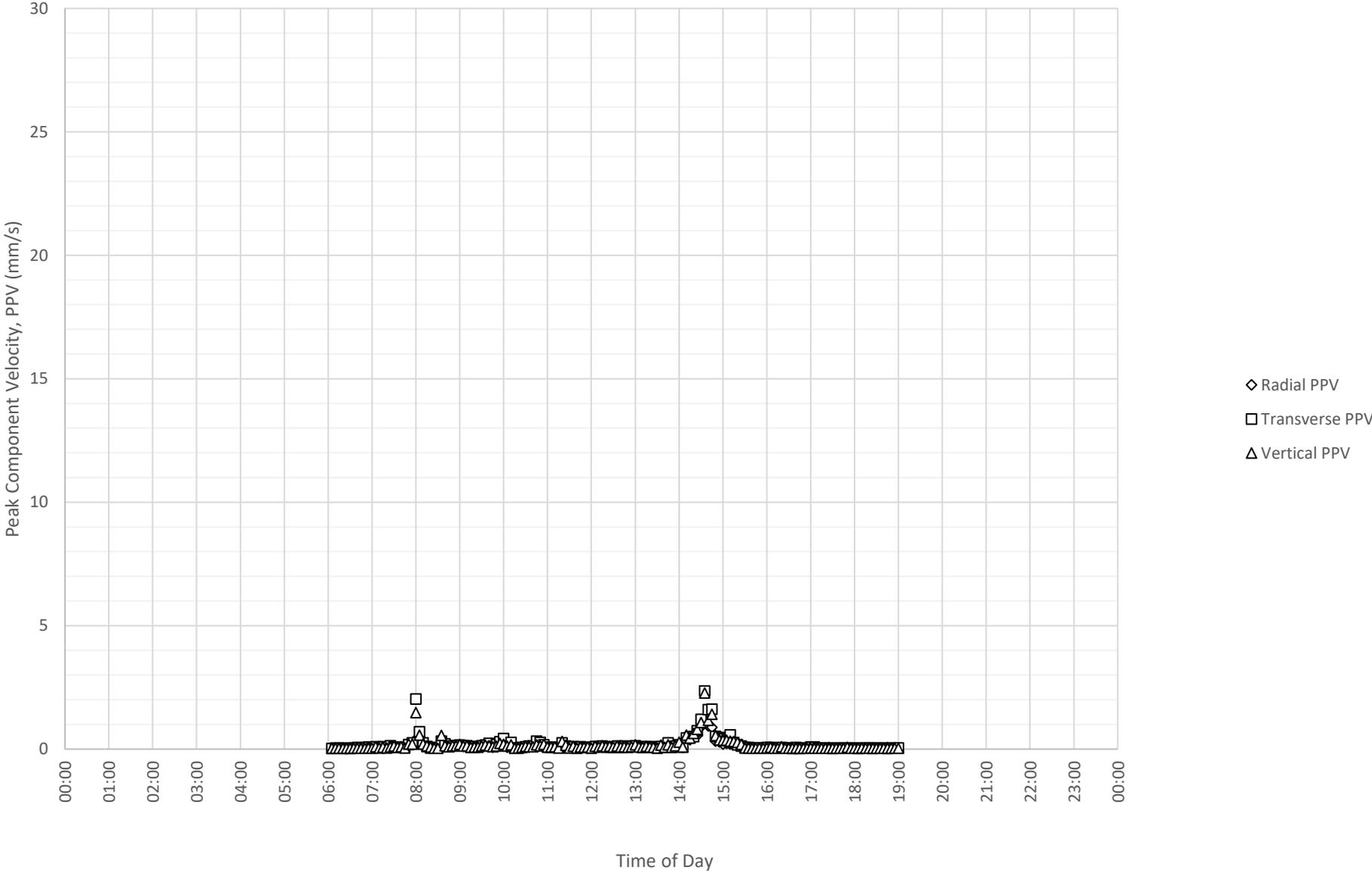
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 8-12-2022



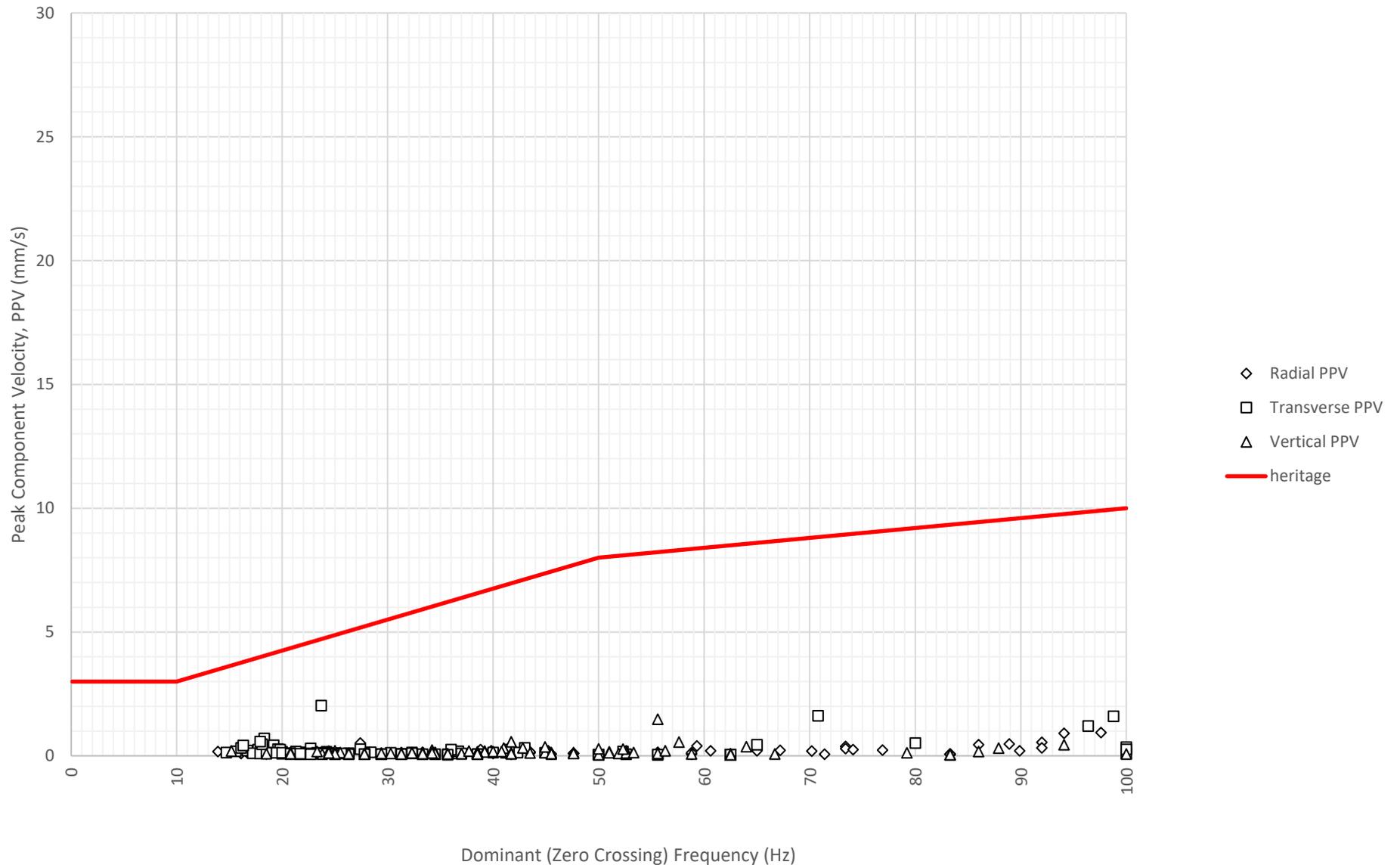
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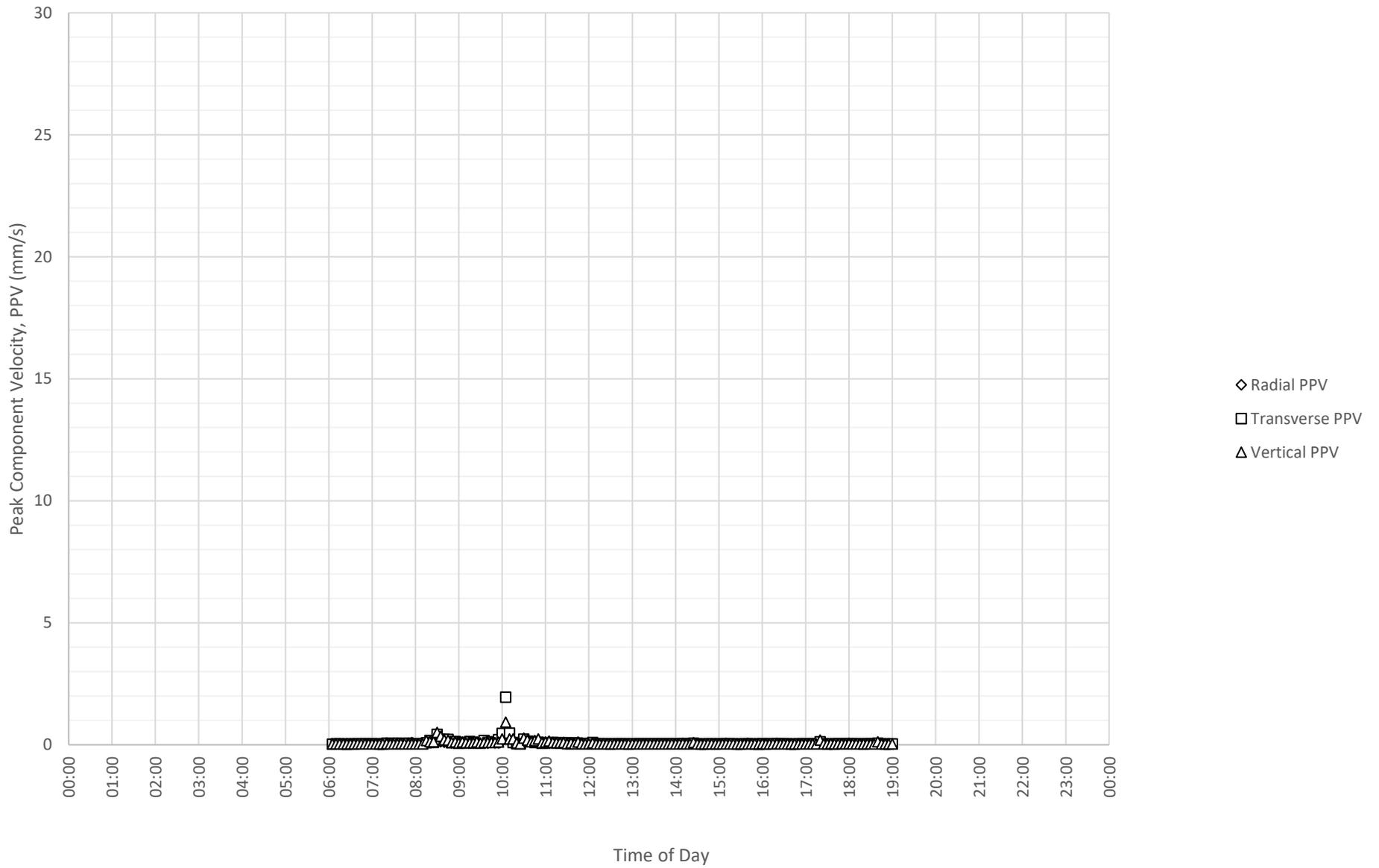
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 9-12-2022



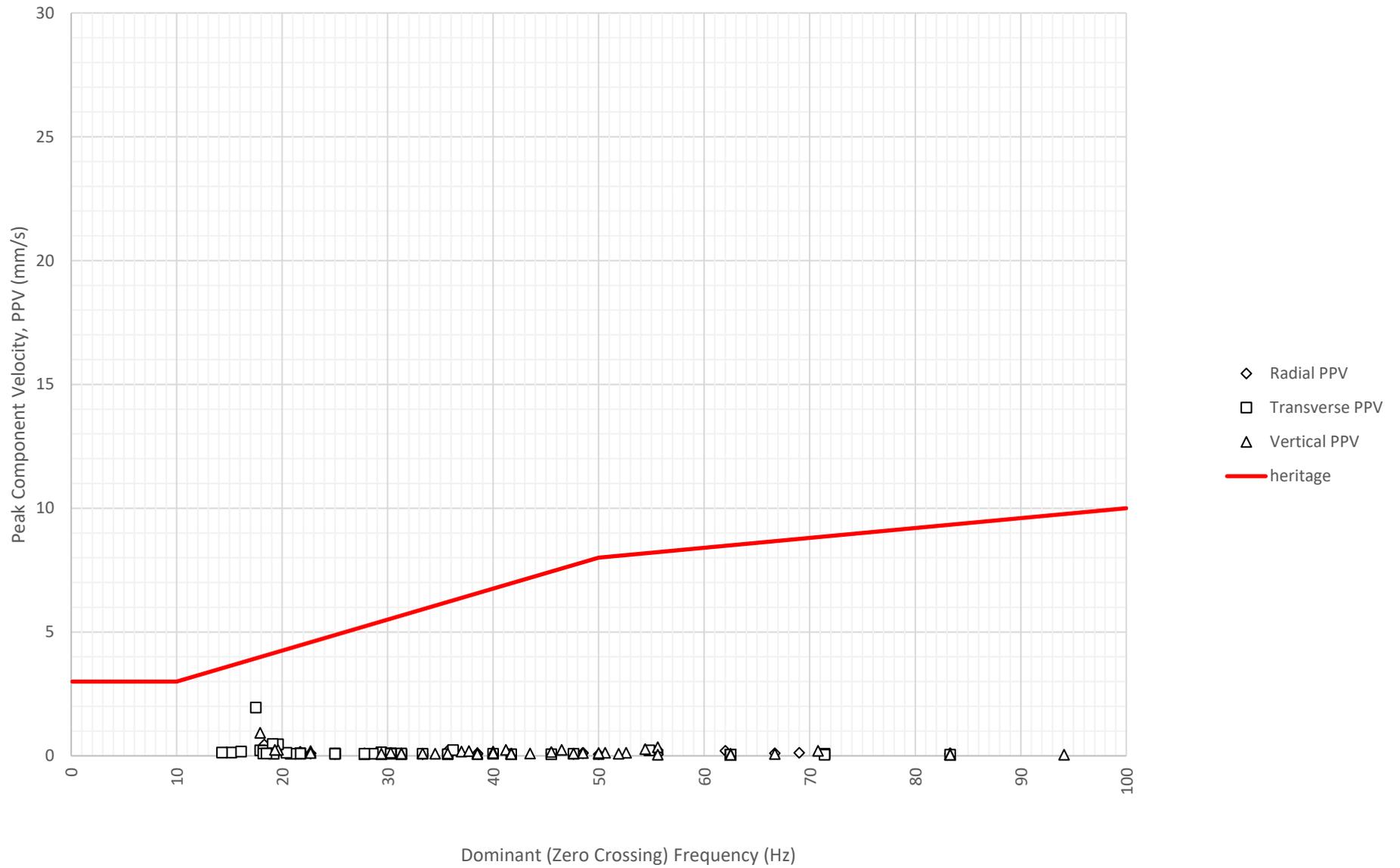
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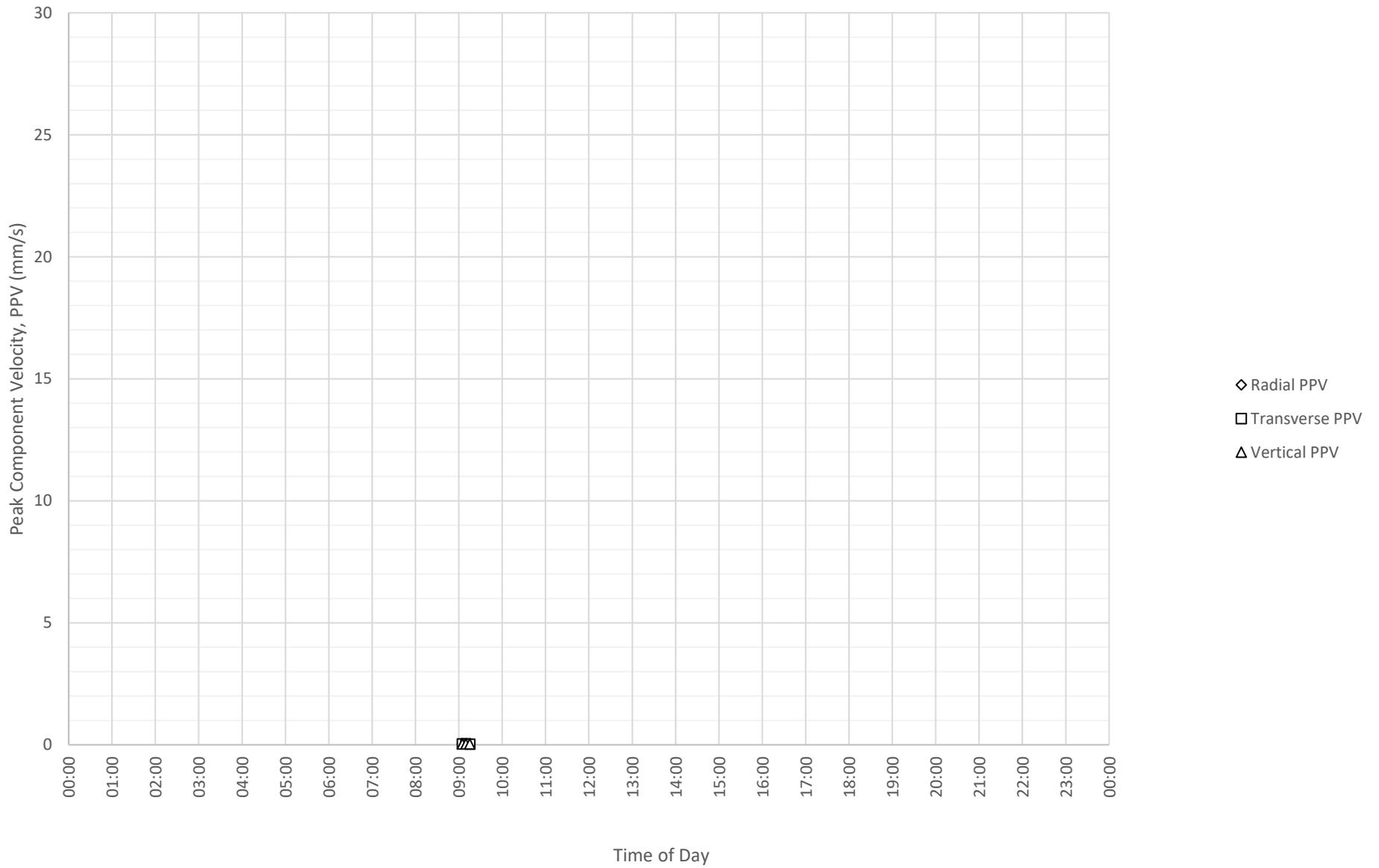
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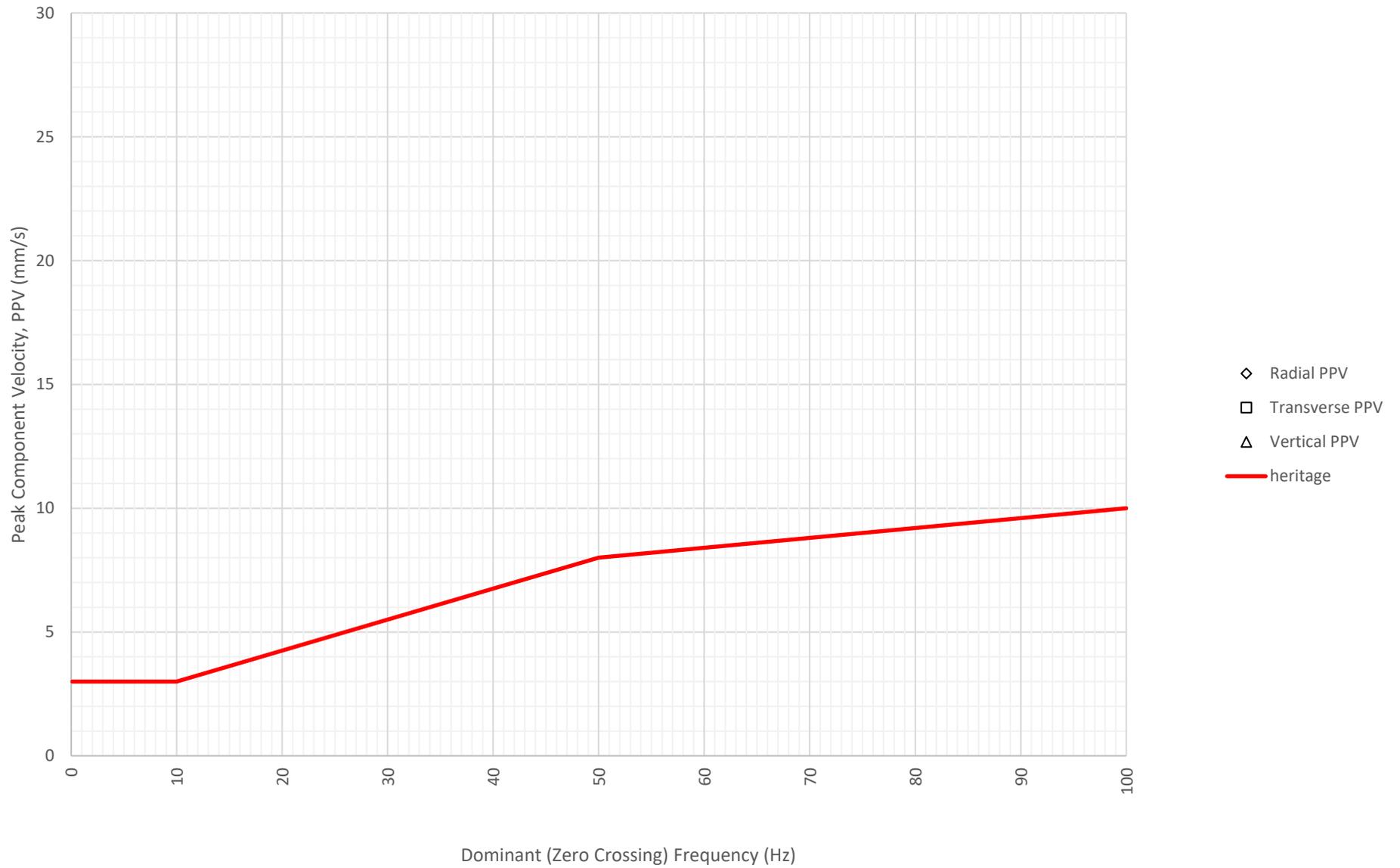
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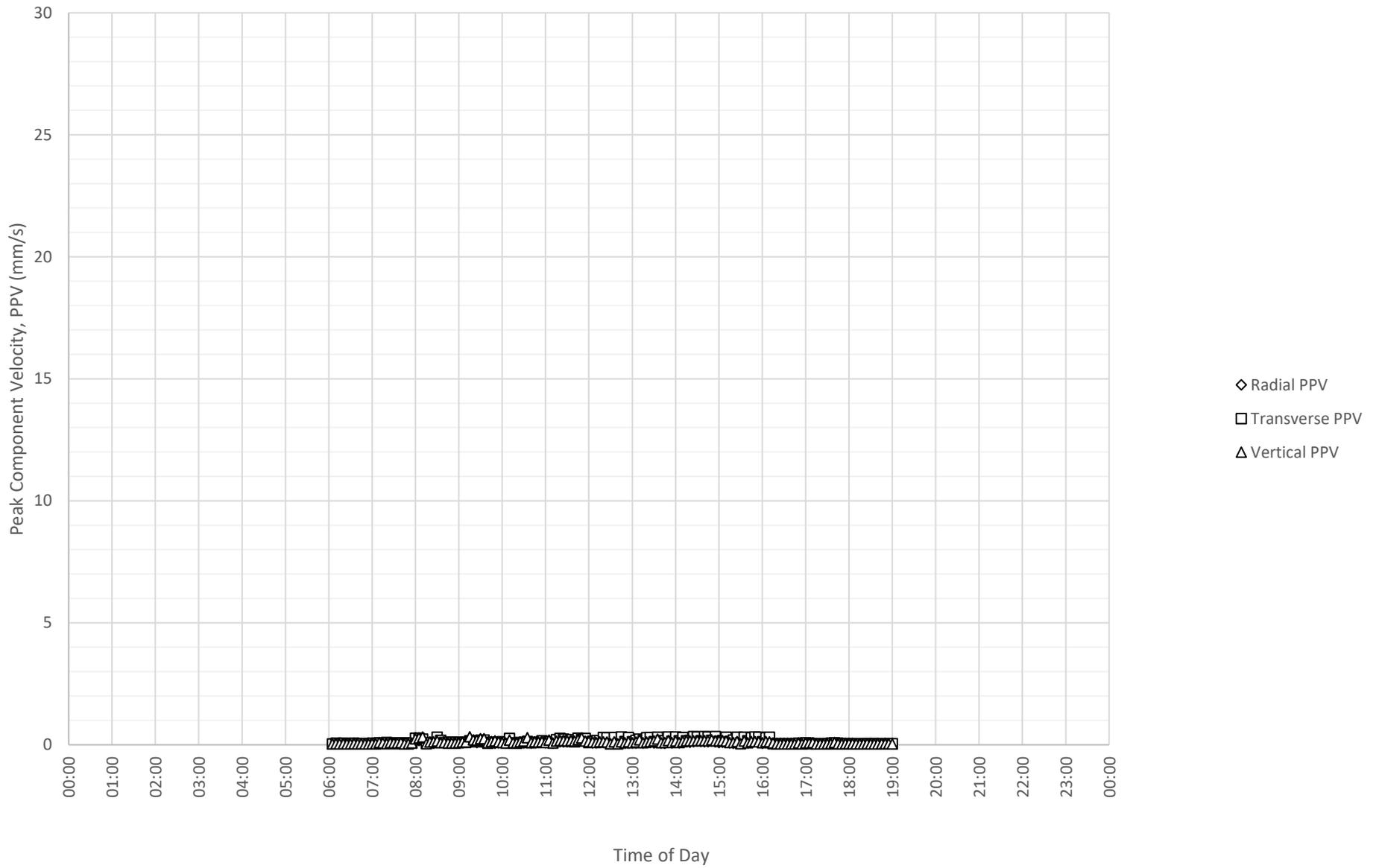
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 11-12-2022



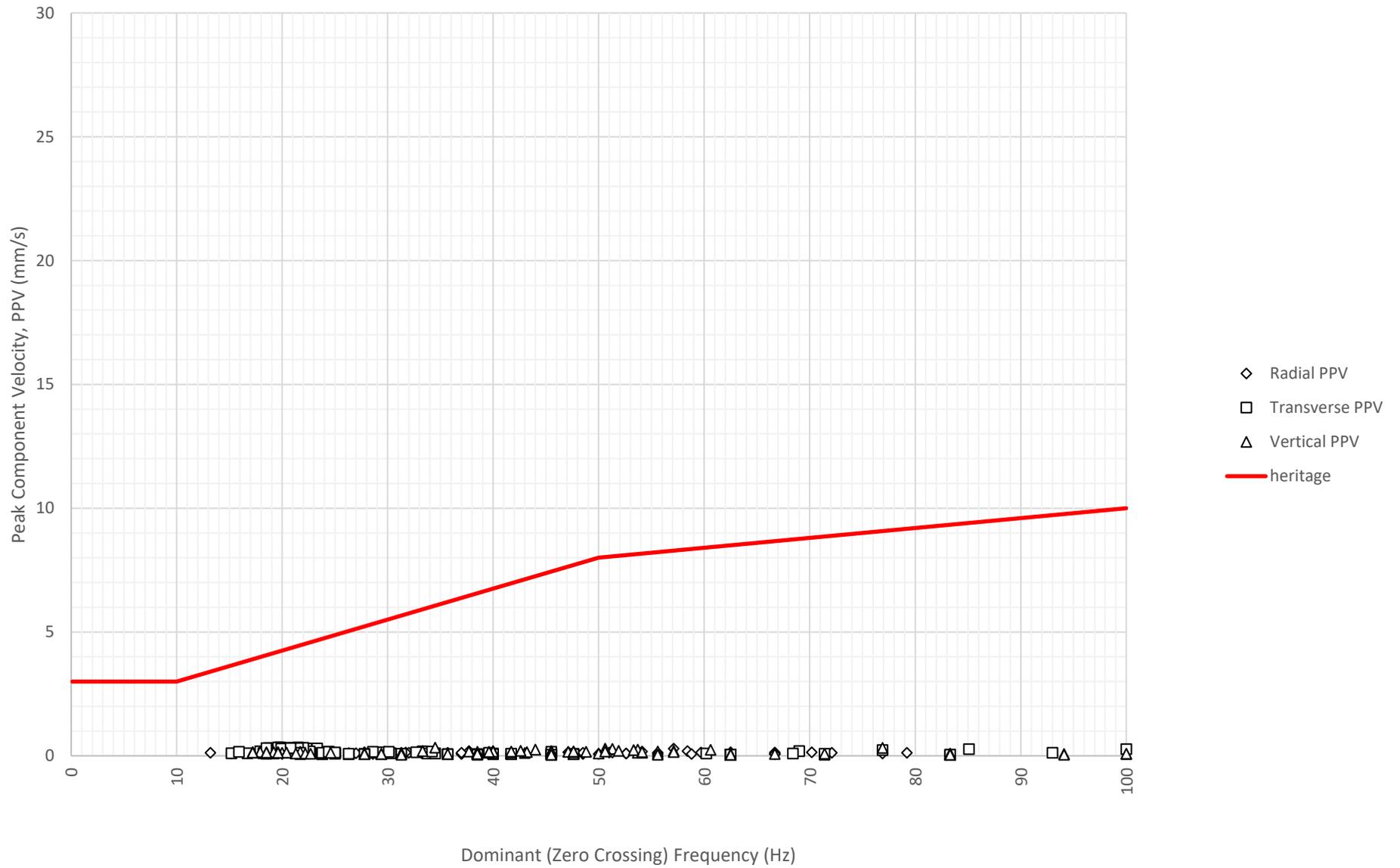
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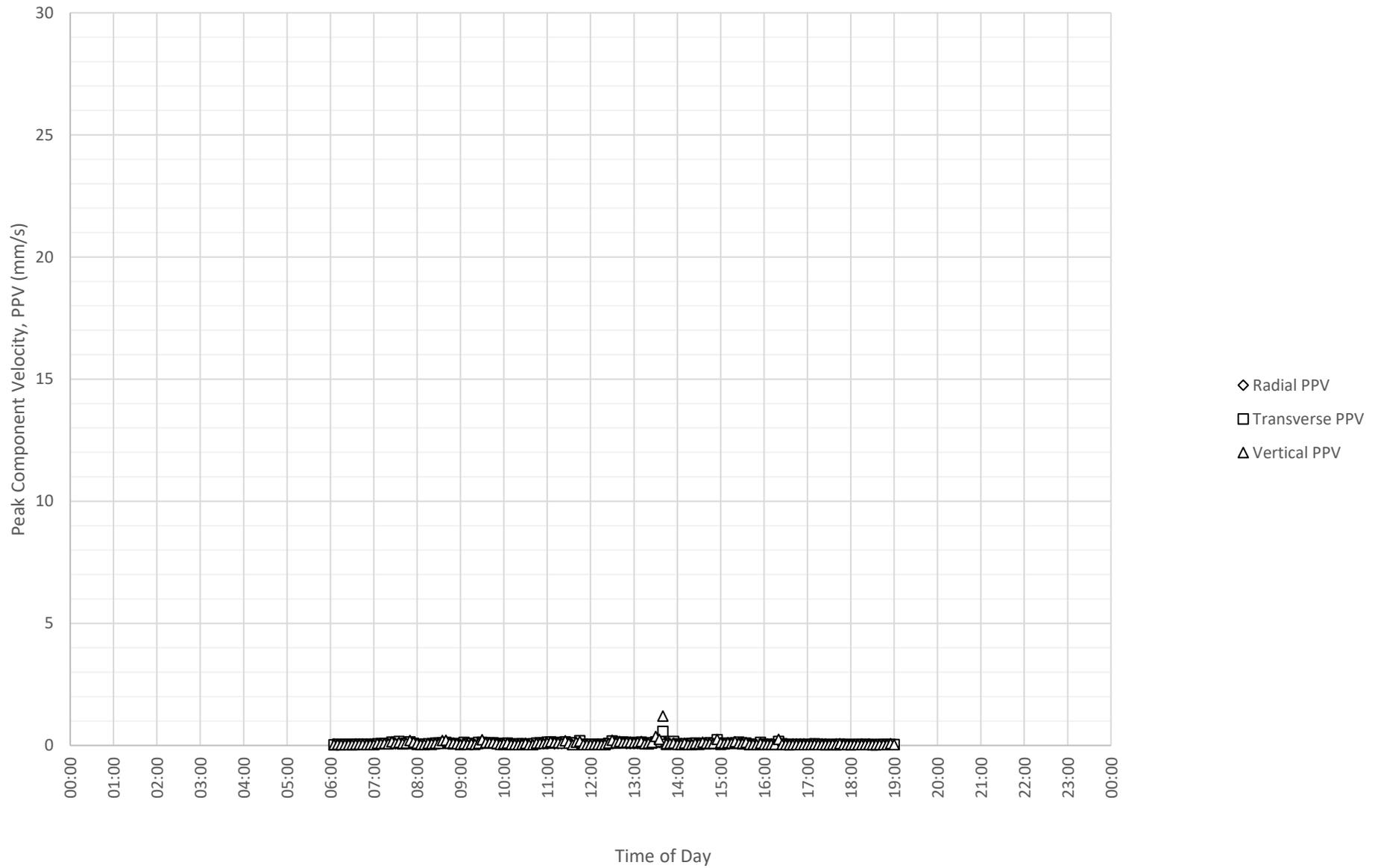
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 12-12-2022



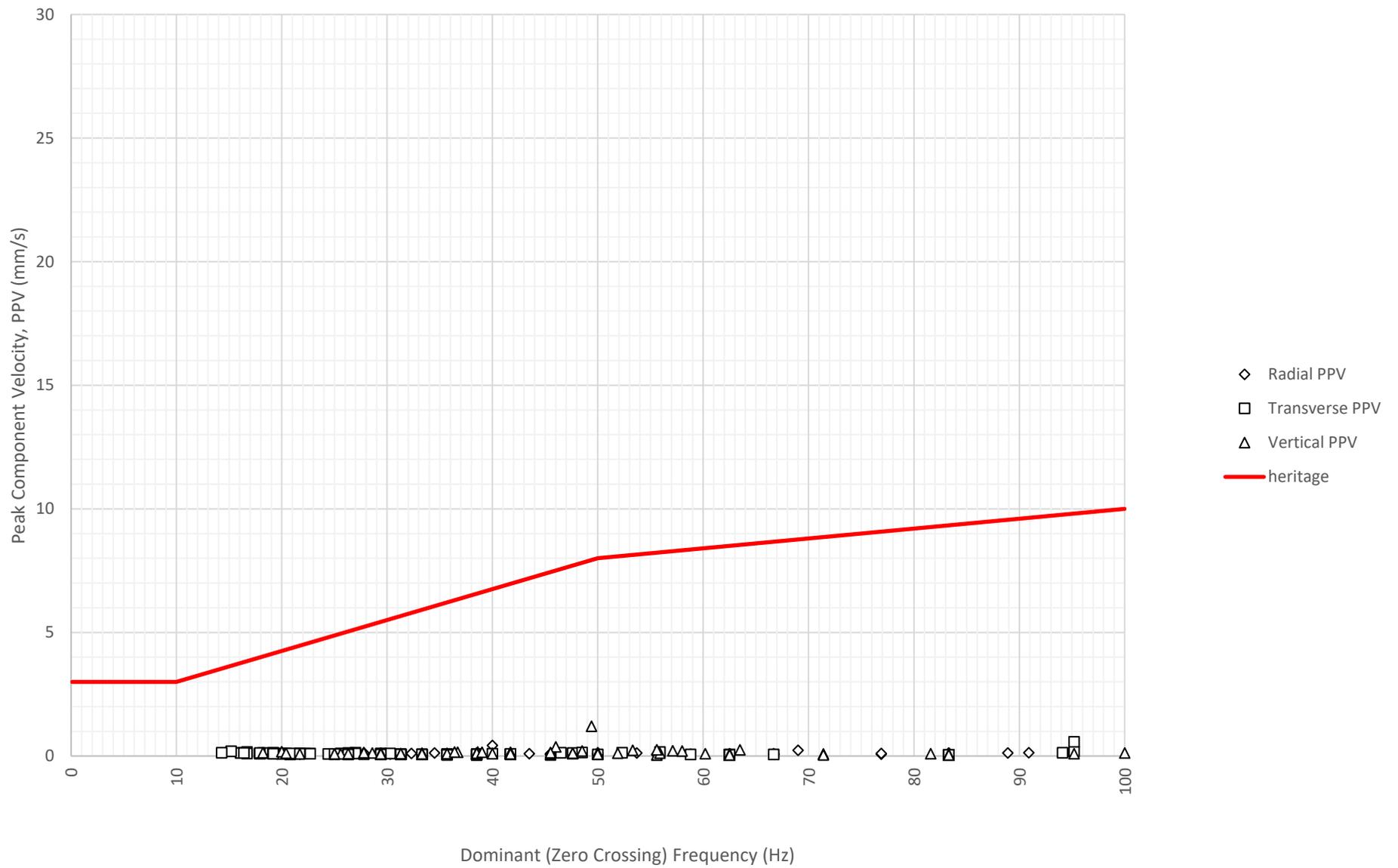
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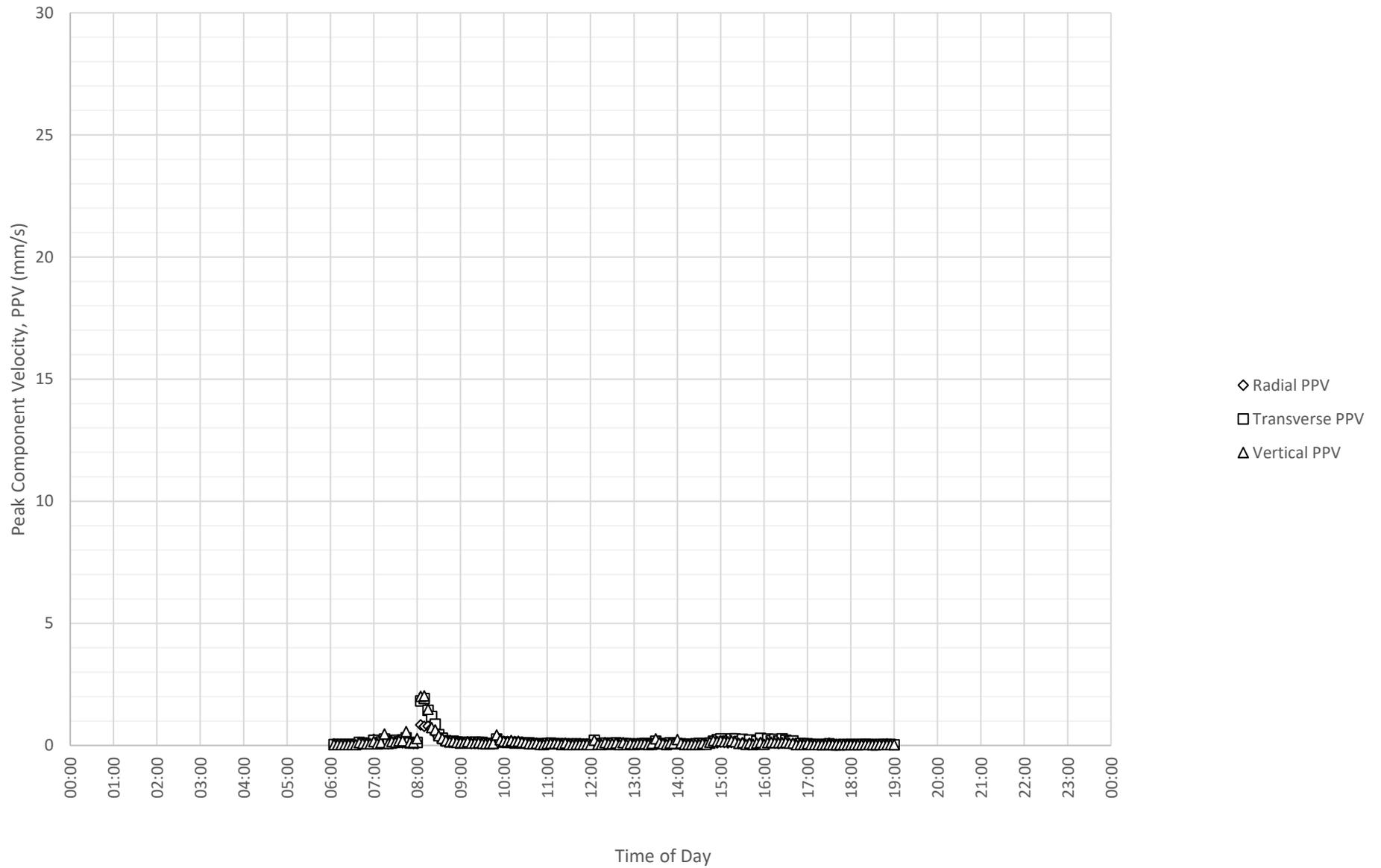
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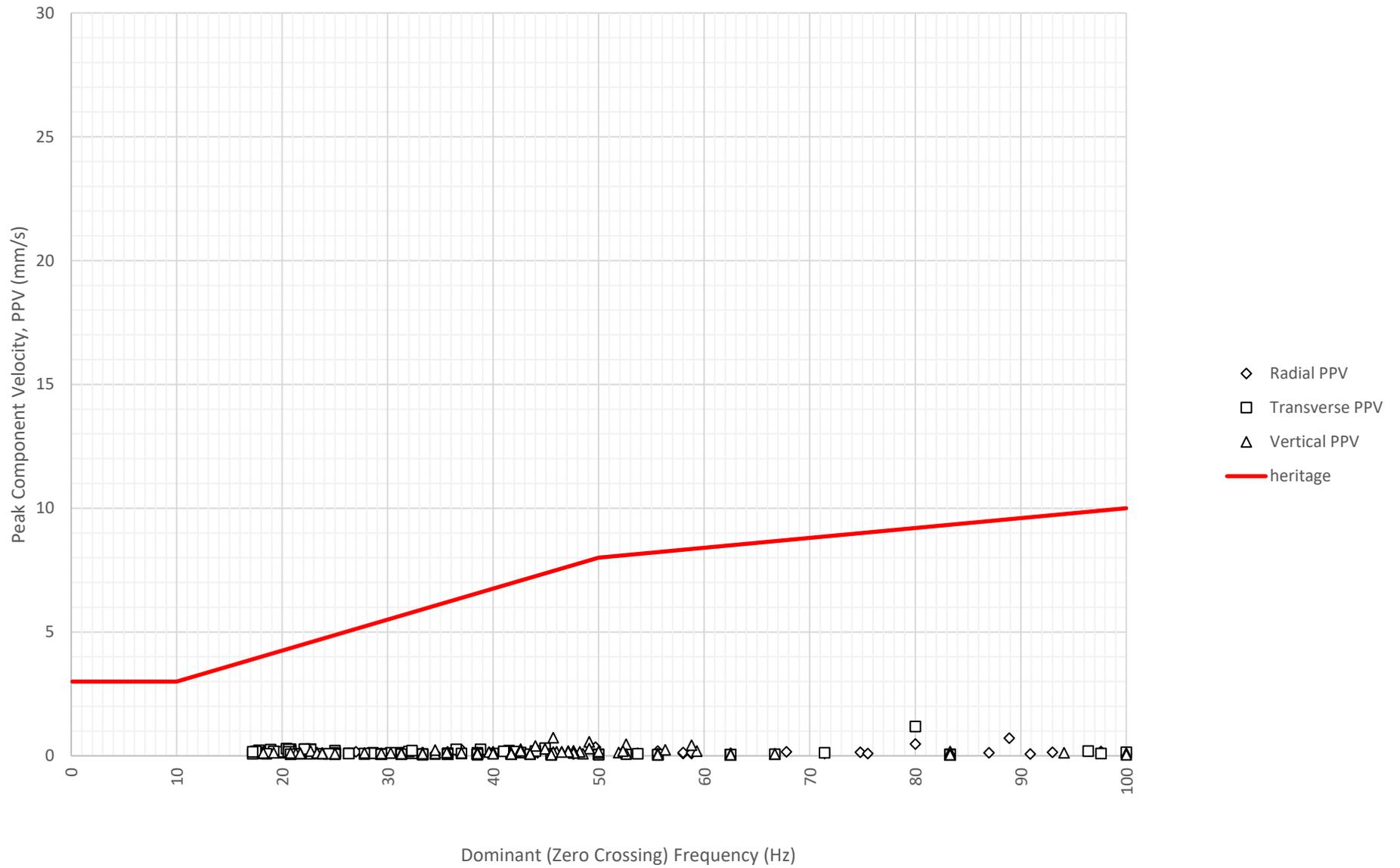
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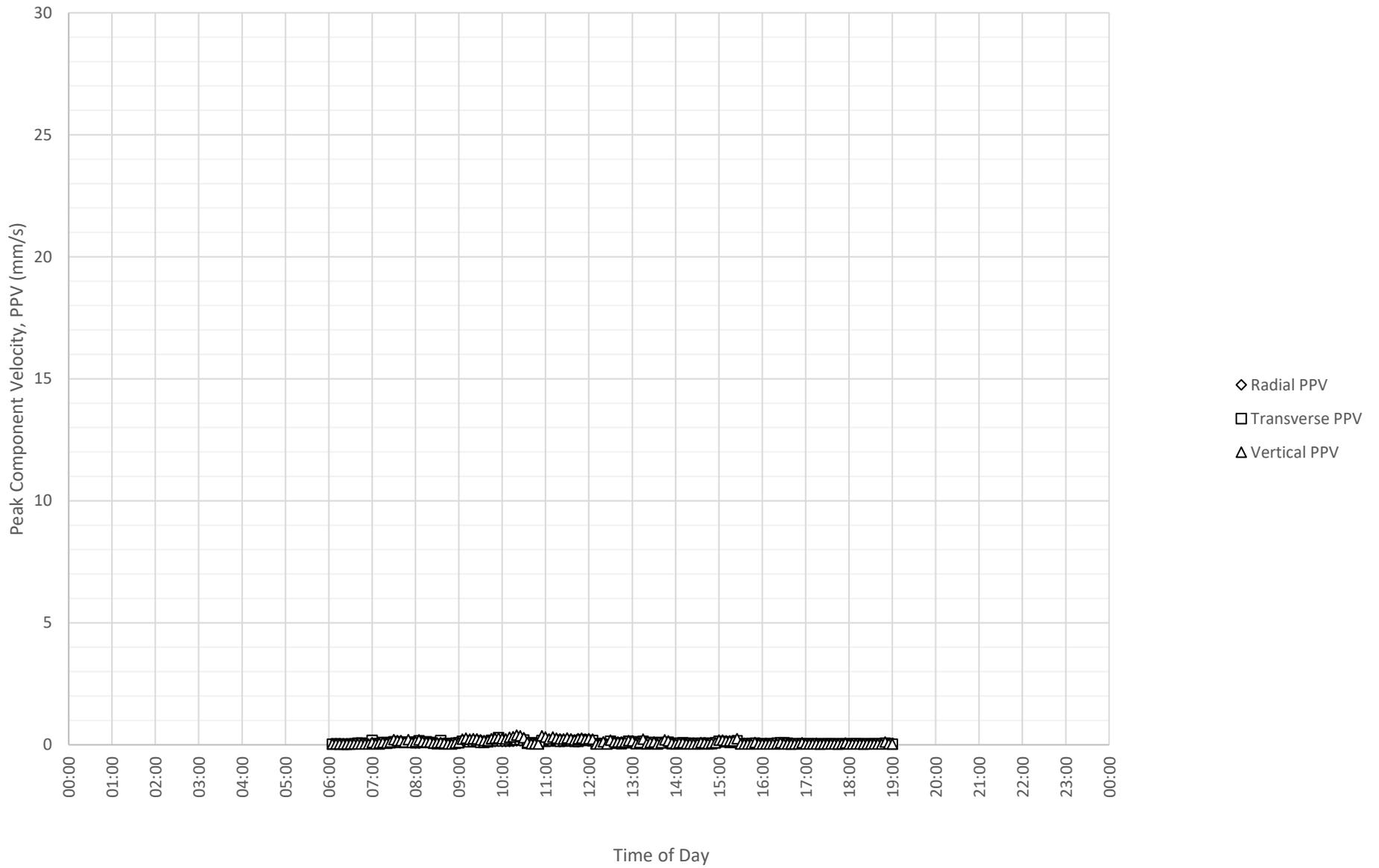
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 14-12-2022



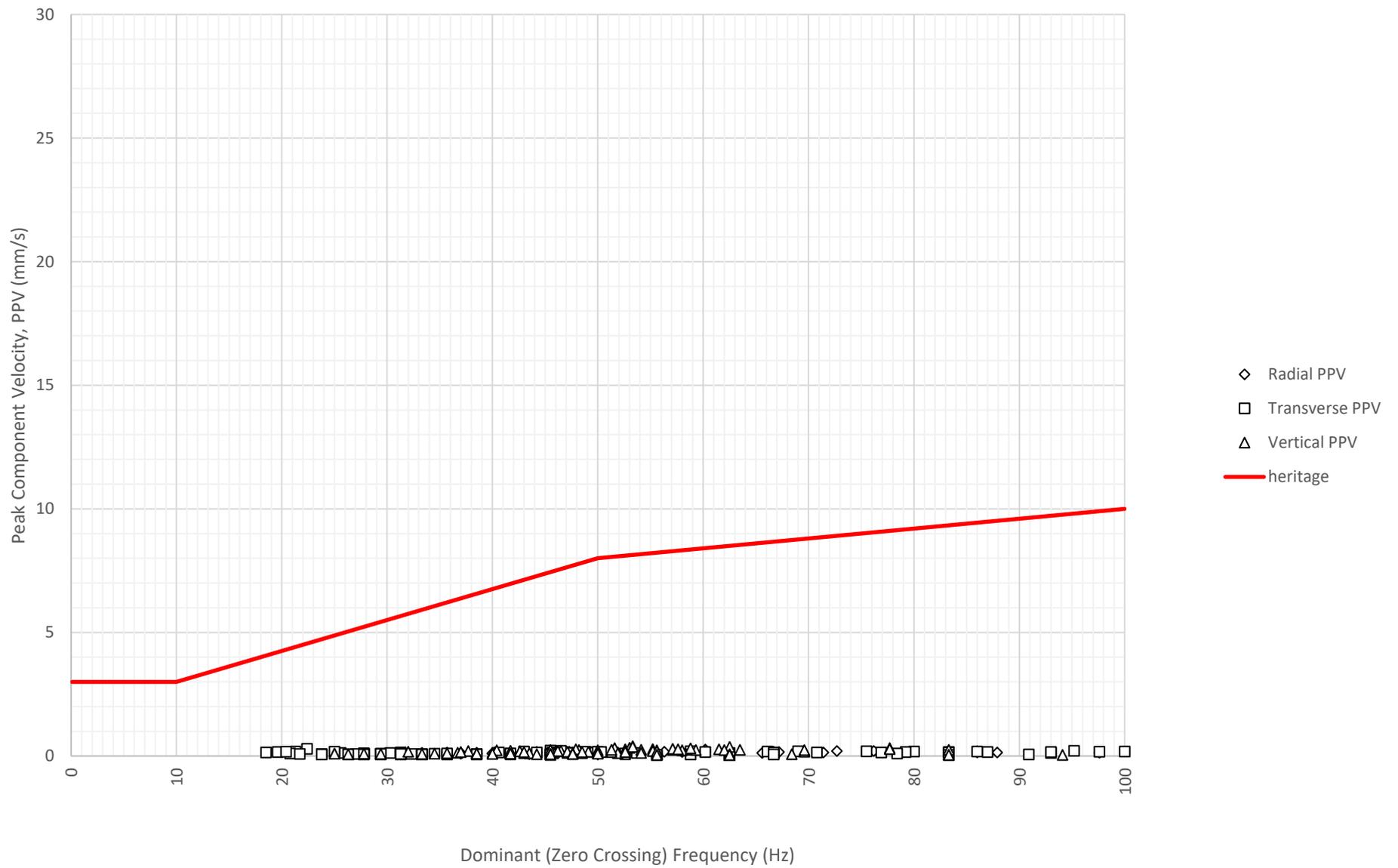
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 14-12-2022



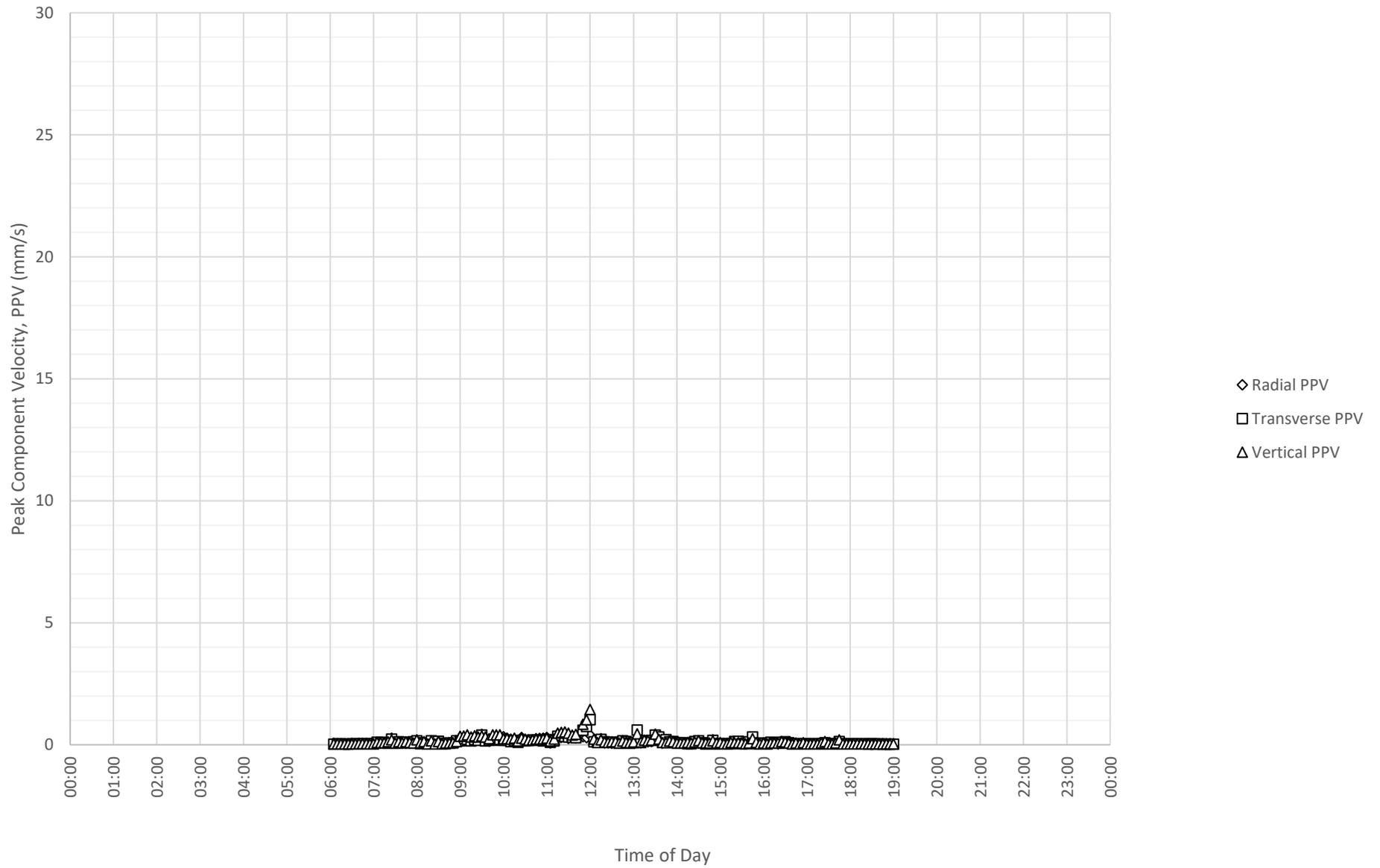
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 15-12-2022



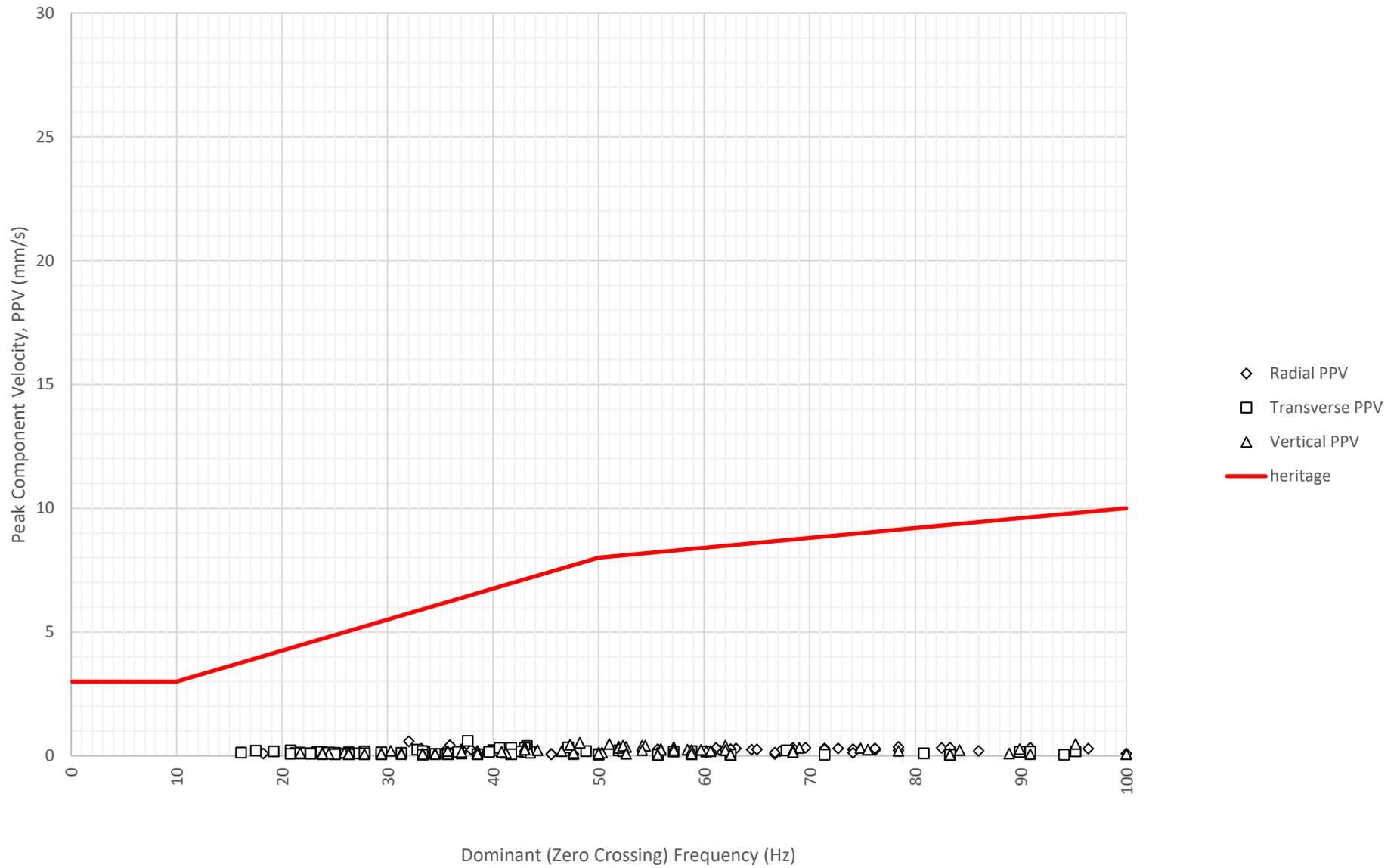
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 15-12-2022



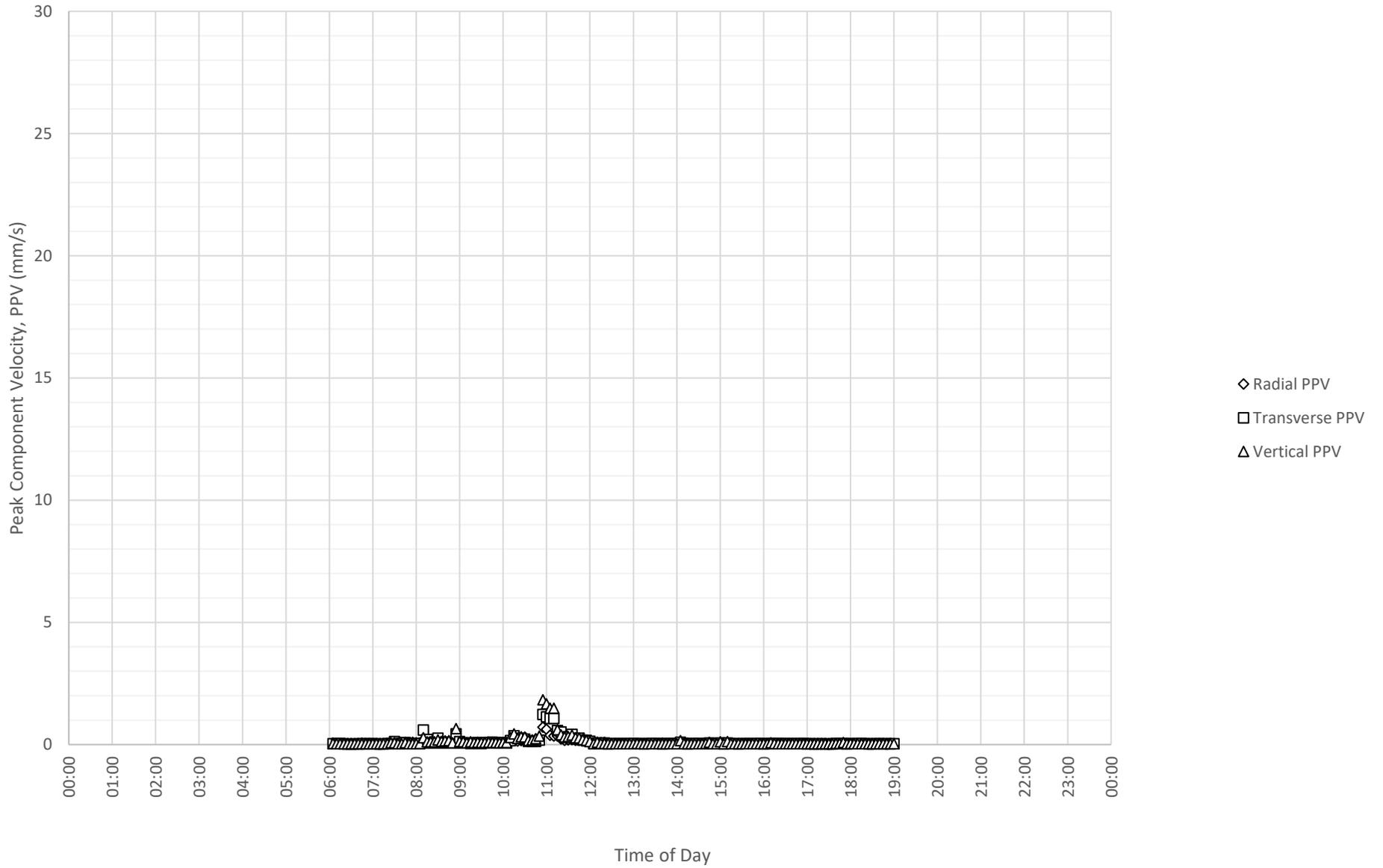
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 16-12-2022



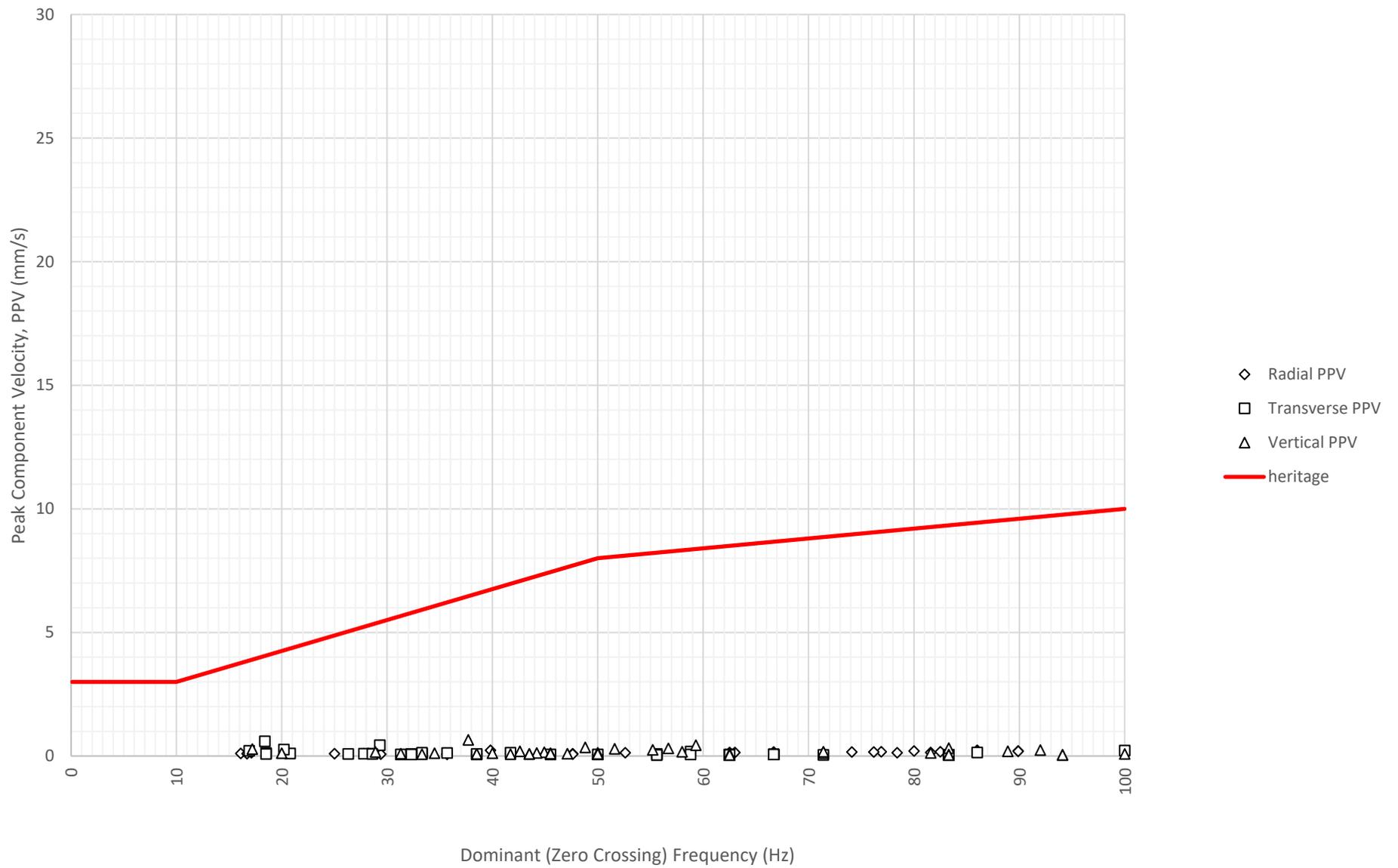
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 16-12-2022



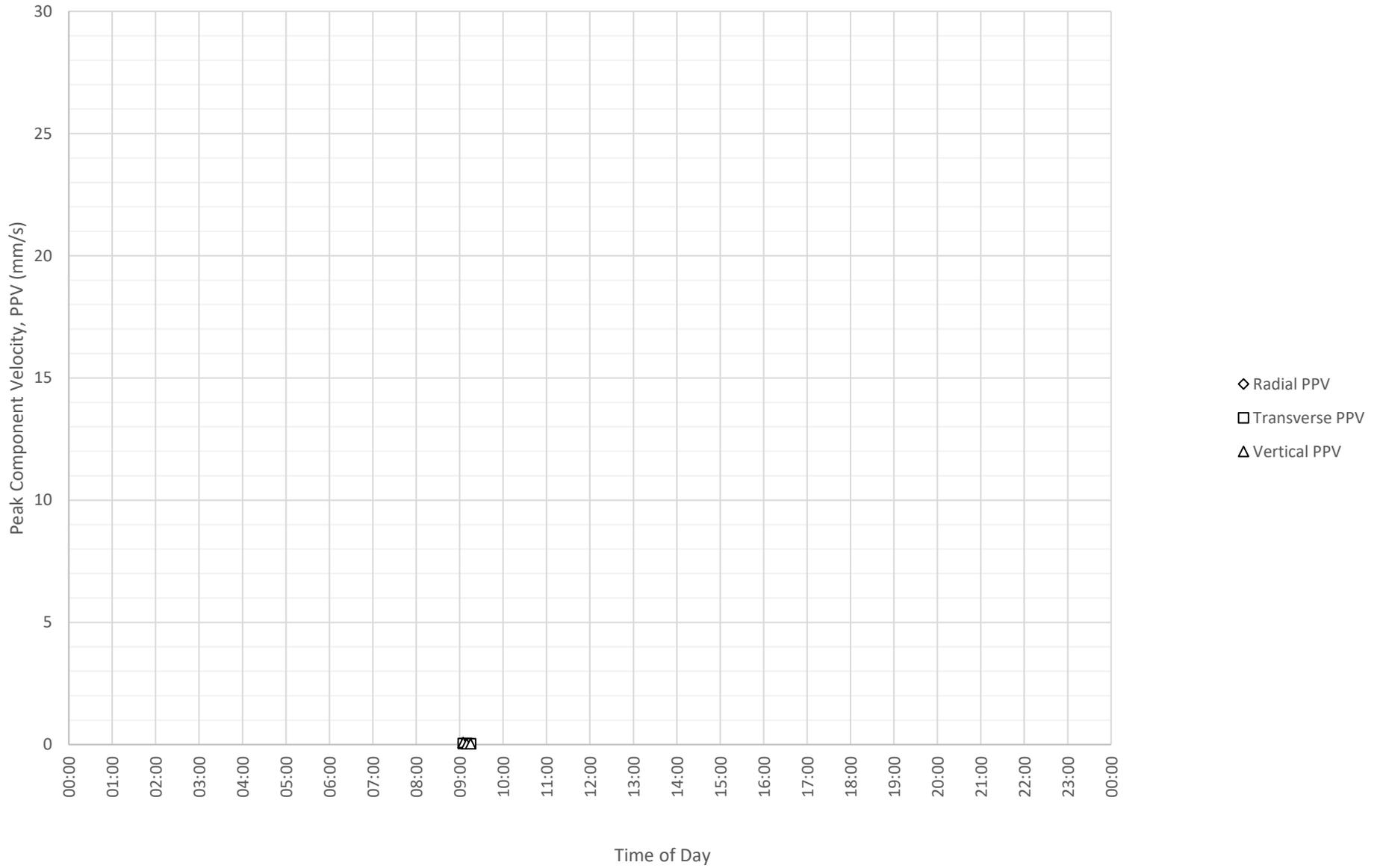
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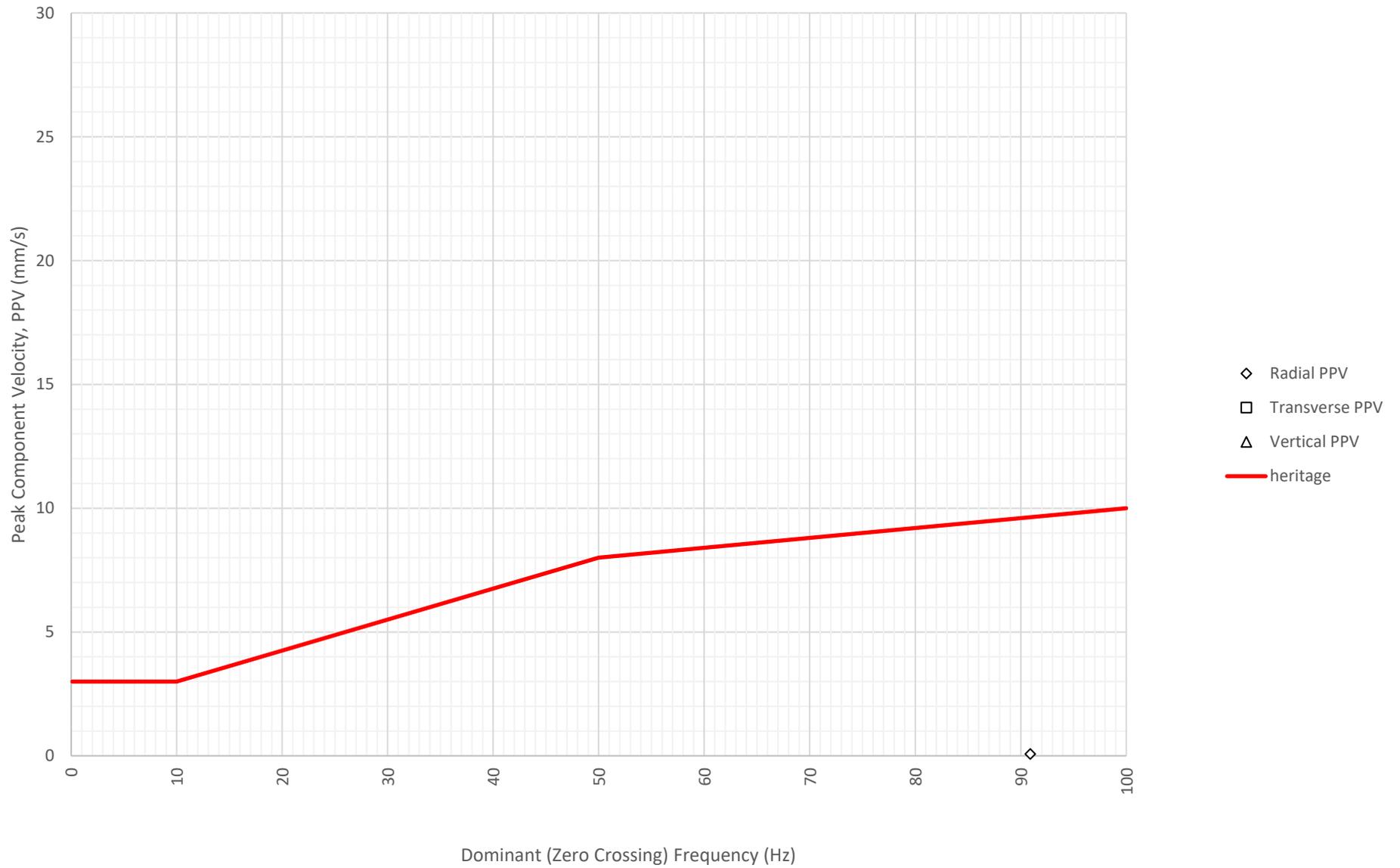
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 17-12-2022



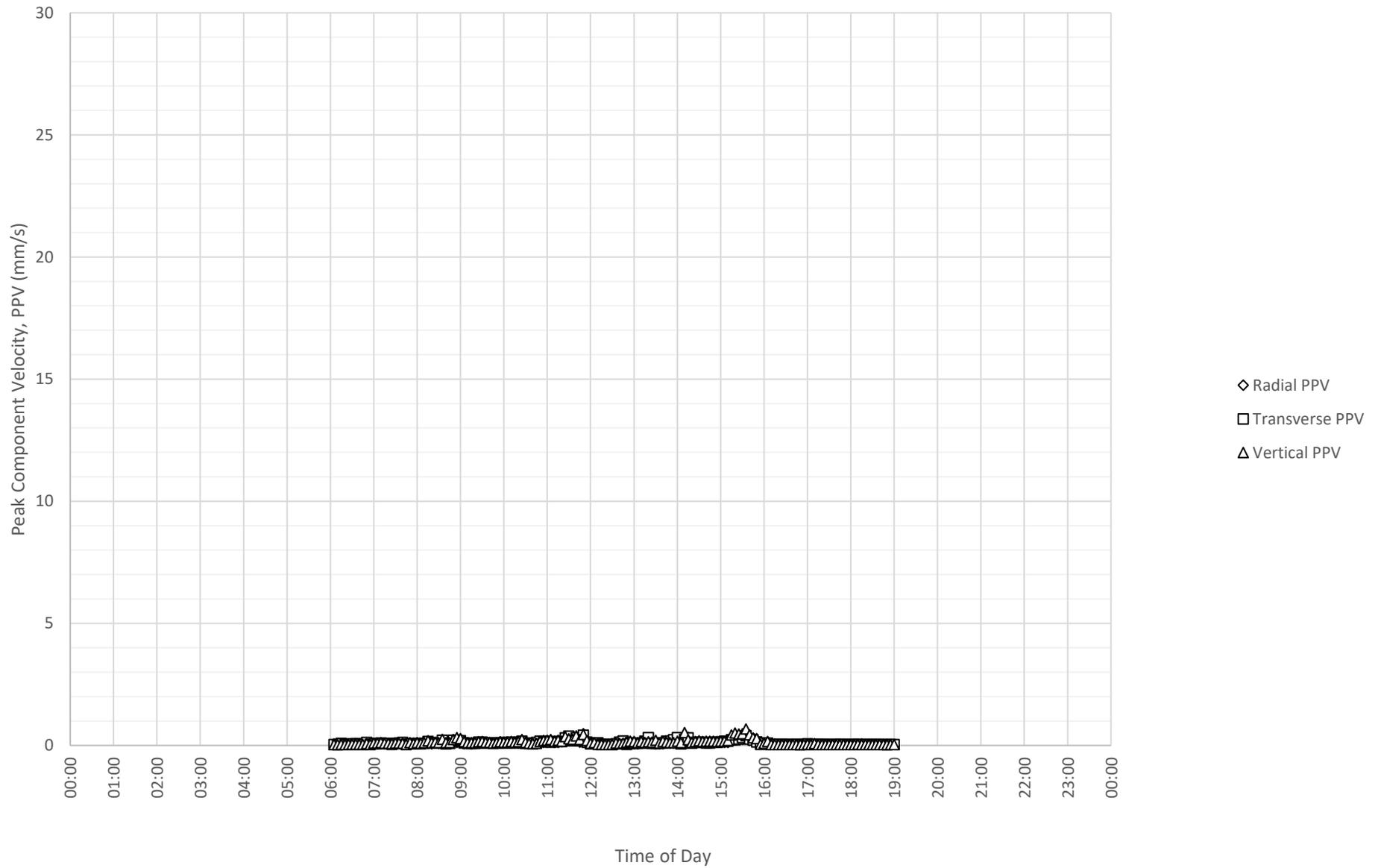
Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 18-12-2022



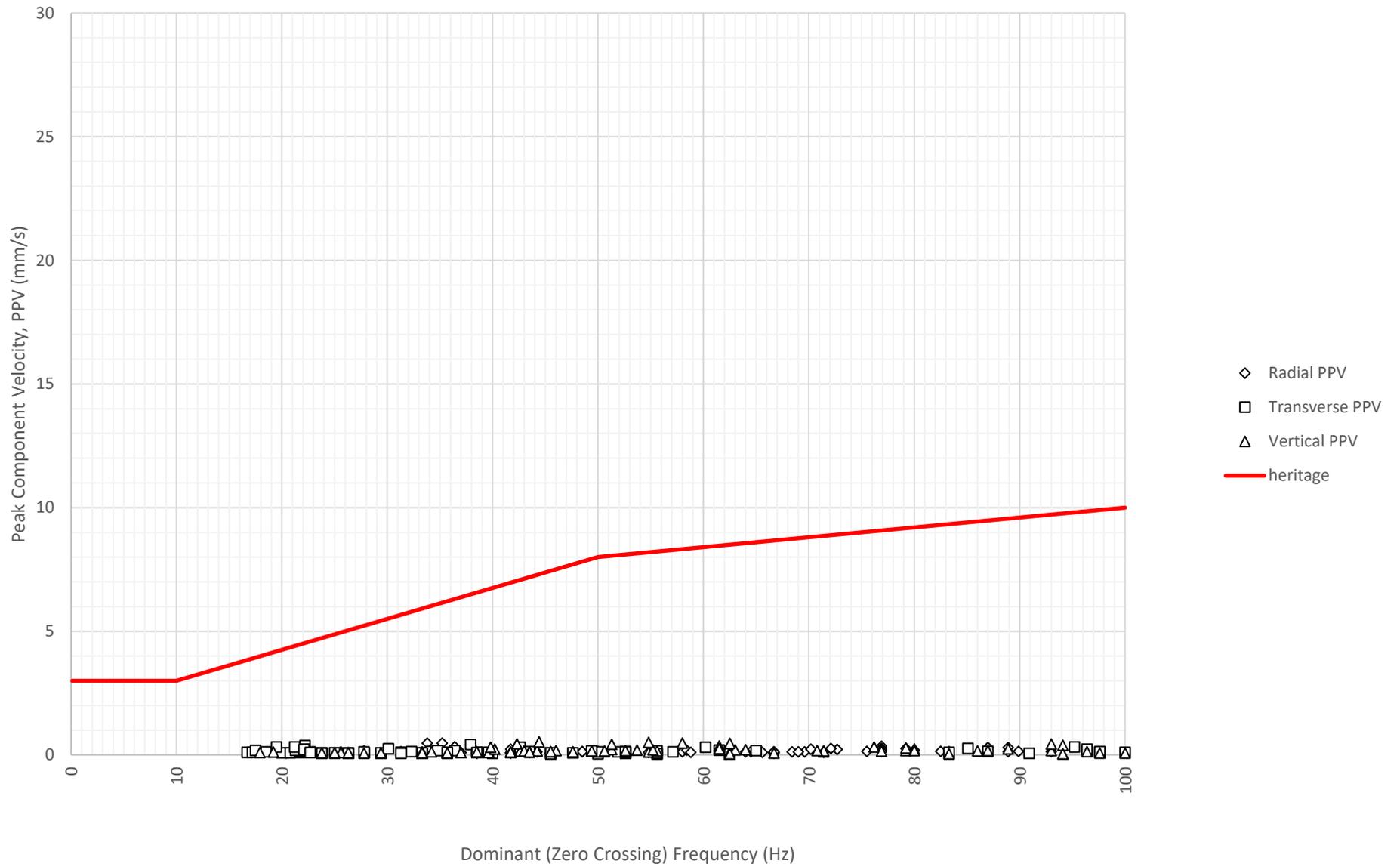
Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 18-12-2022



Daily Monitored Vibration Levels at M7427/M7496 Heritage building (rear) on 19-12-2022

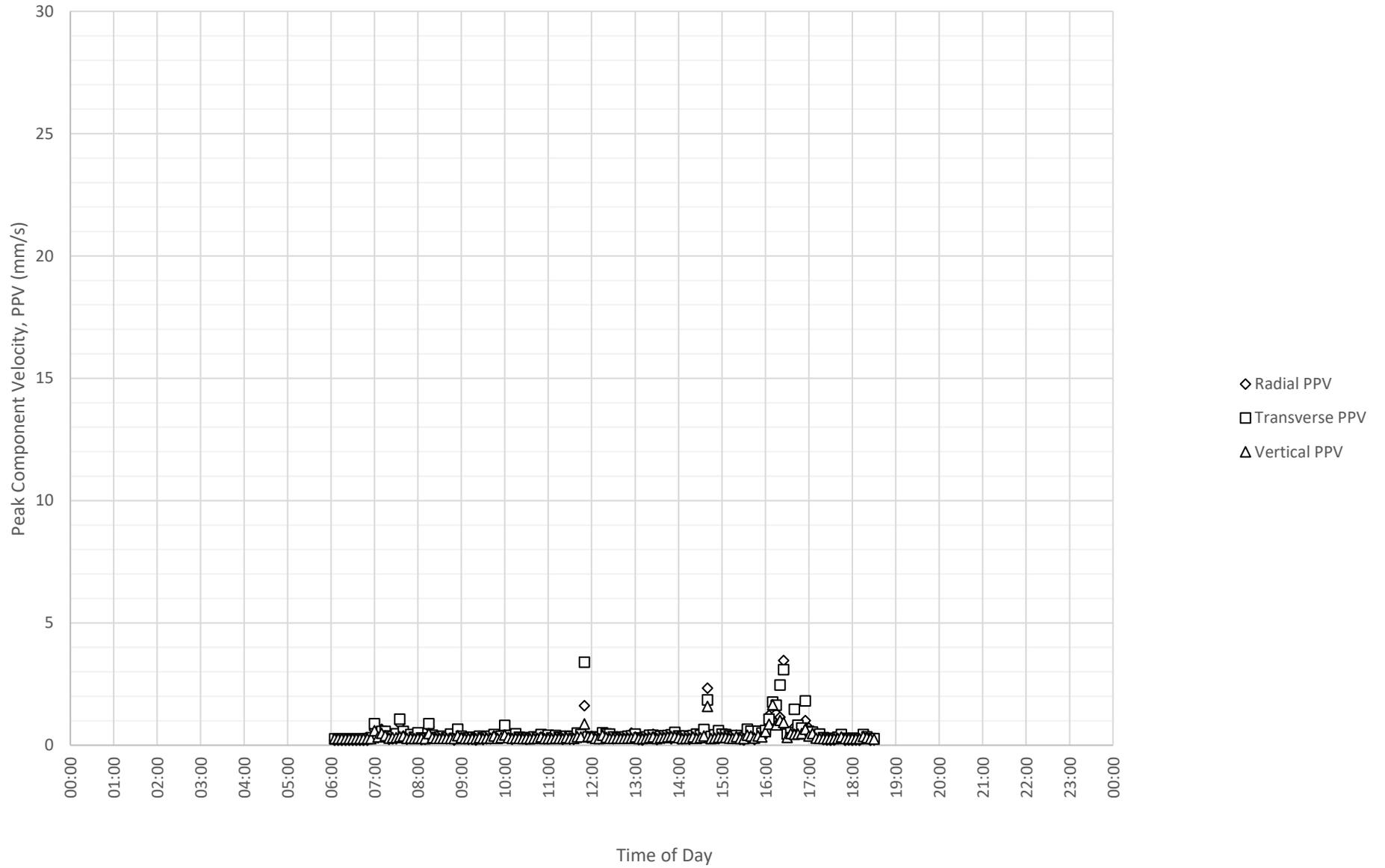


Frequency Content of Vibration Levels at M7427/M7496 Heritage building (rear) on 19-12-2022

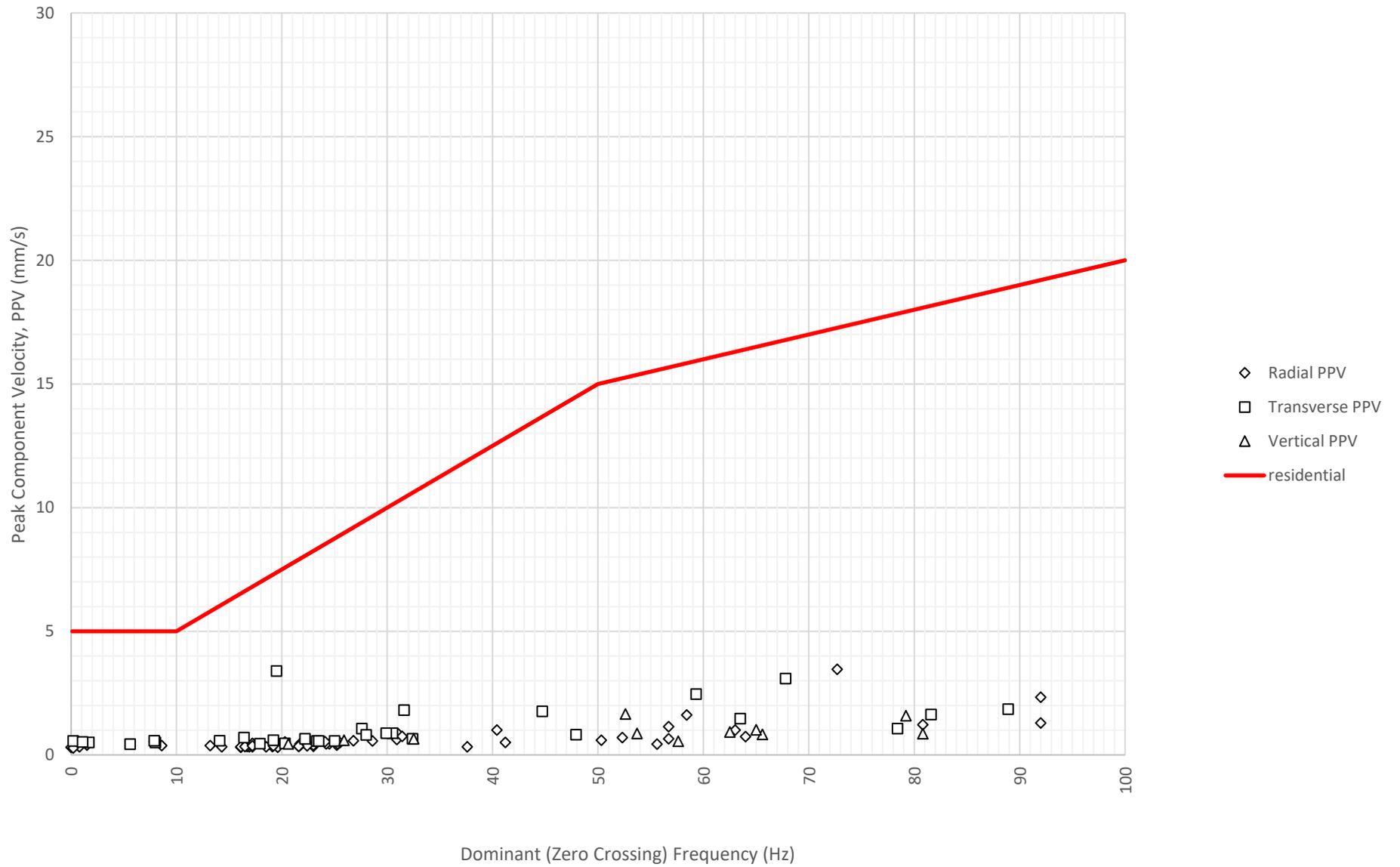


## **APPENDIX 3 : DAILY GRAPHS M7715 (RESIDENTIAL BUILDING)**

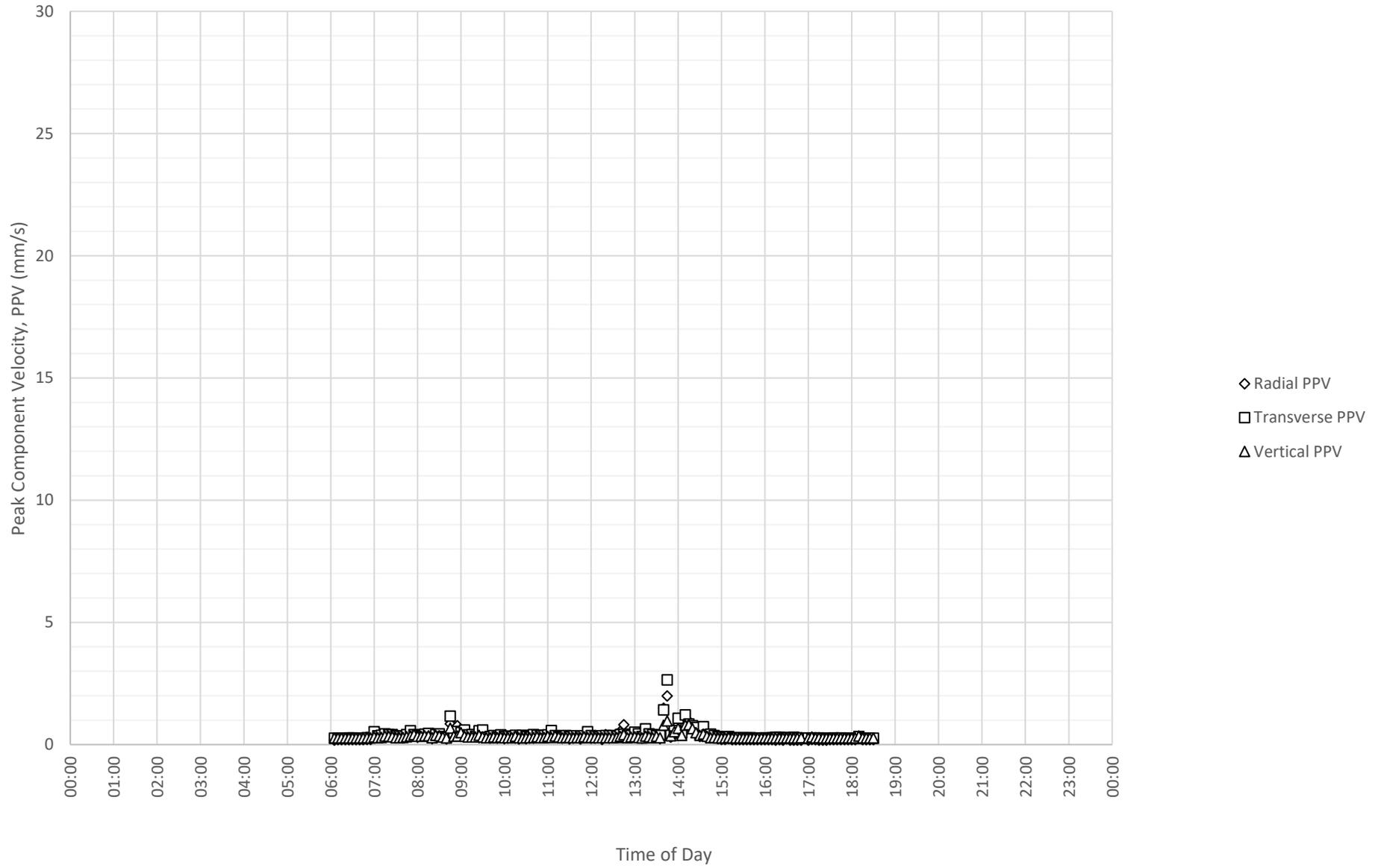
Daily Monitored Vibration Levels at M7715 Residential on 15-11-2022



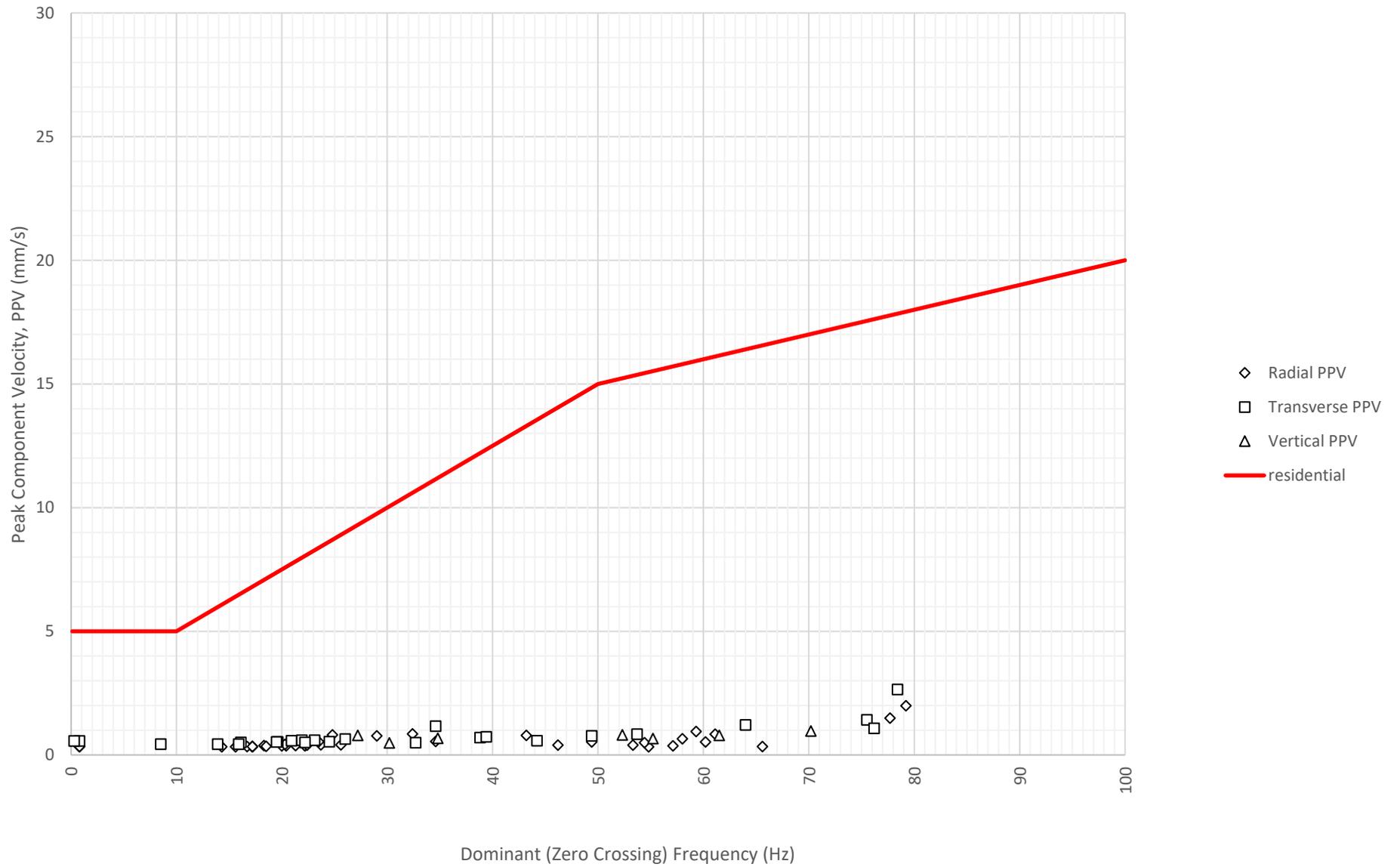
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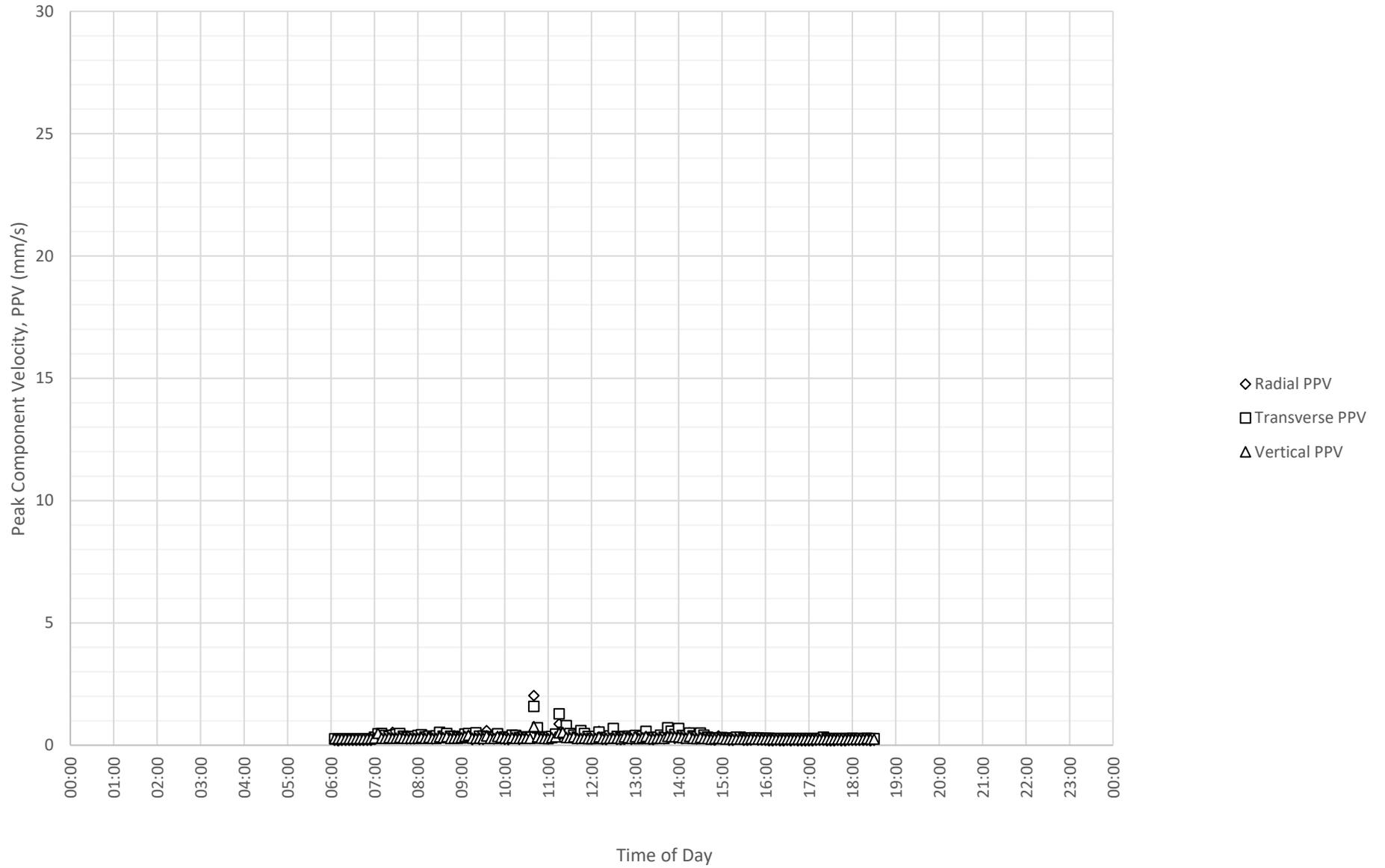
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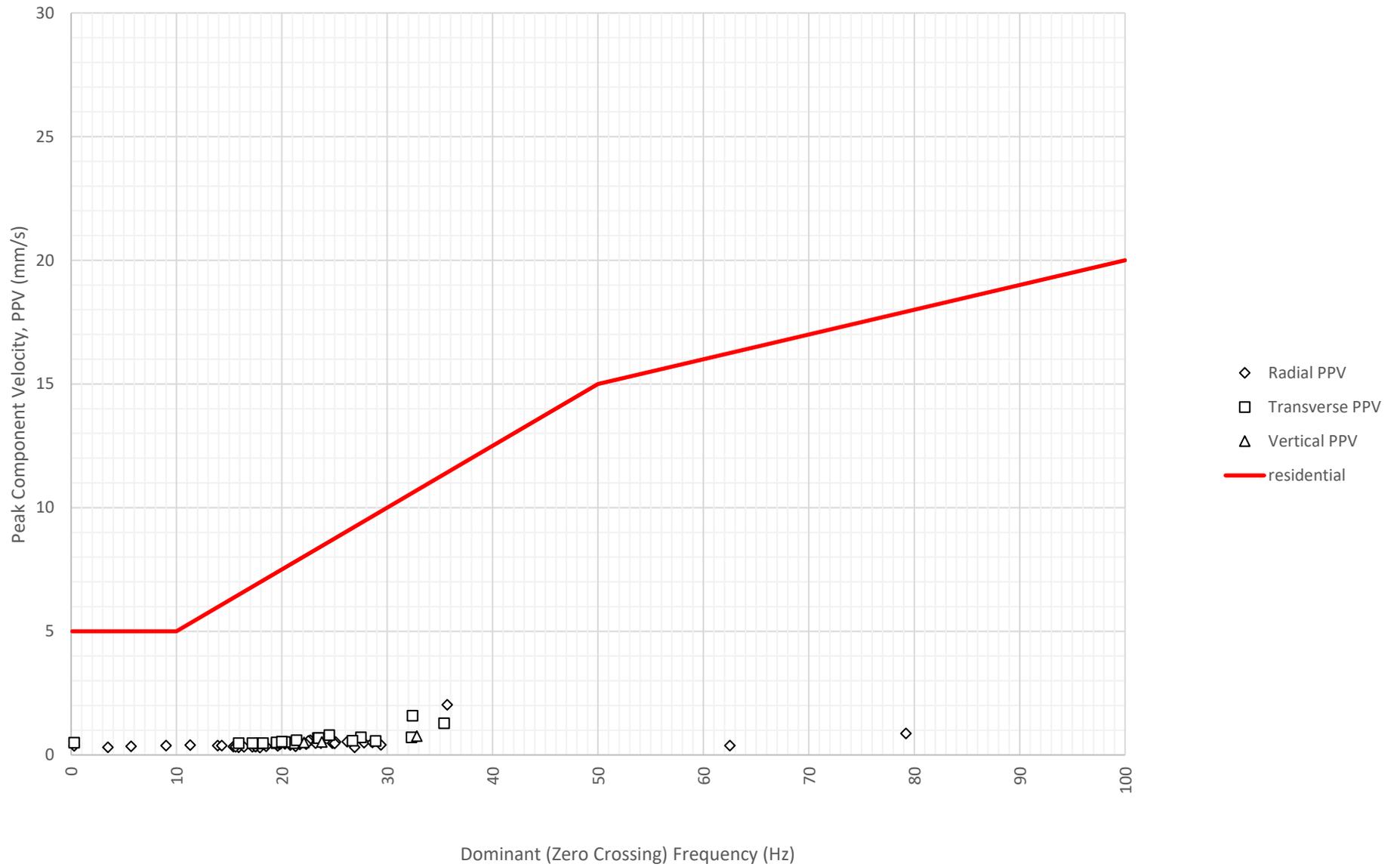
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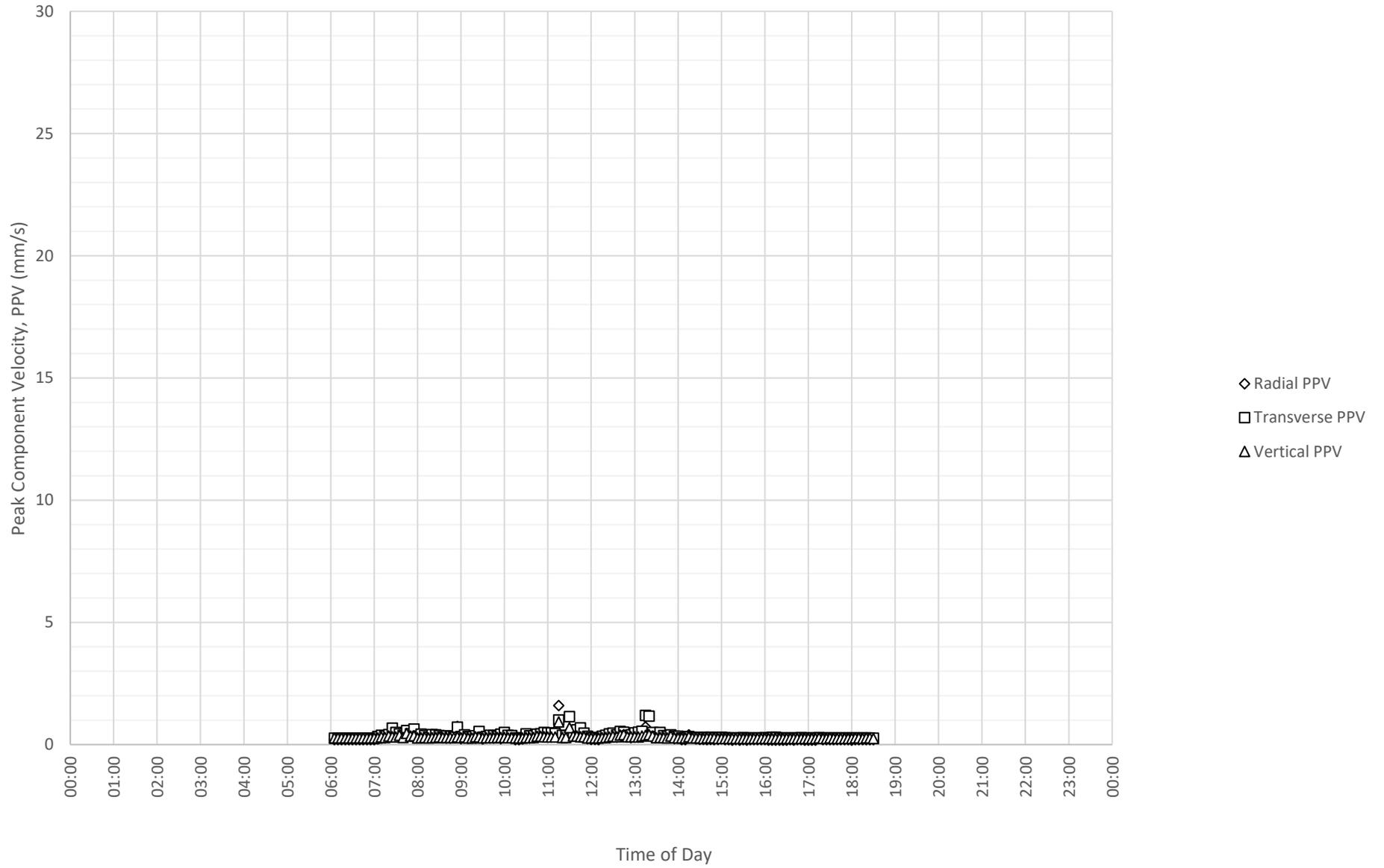
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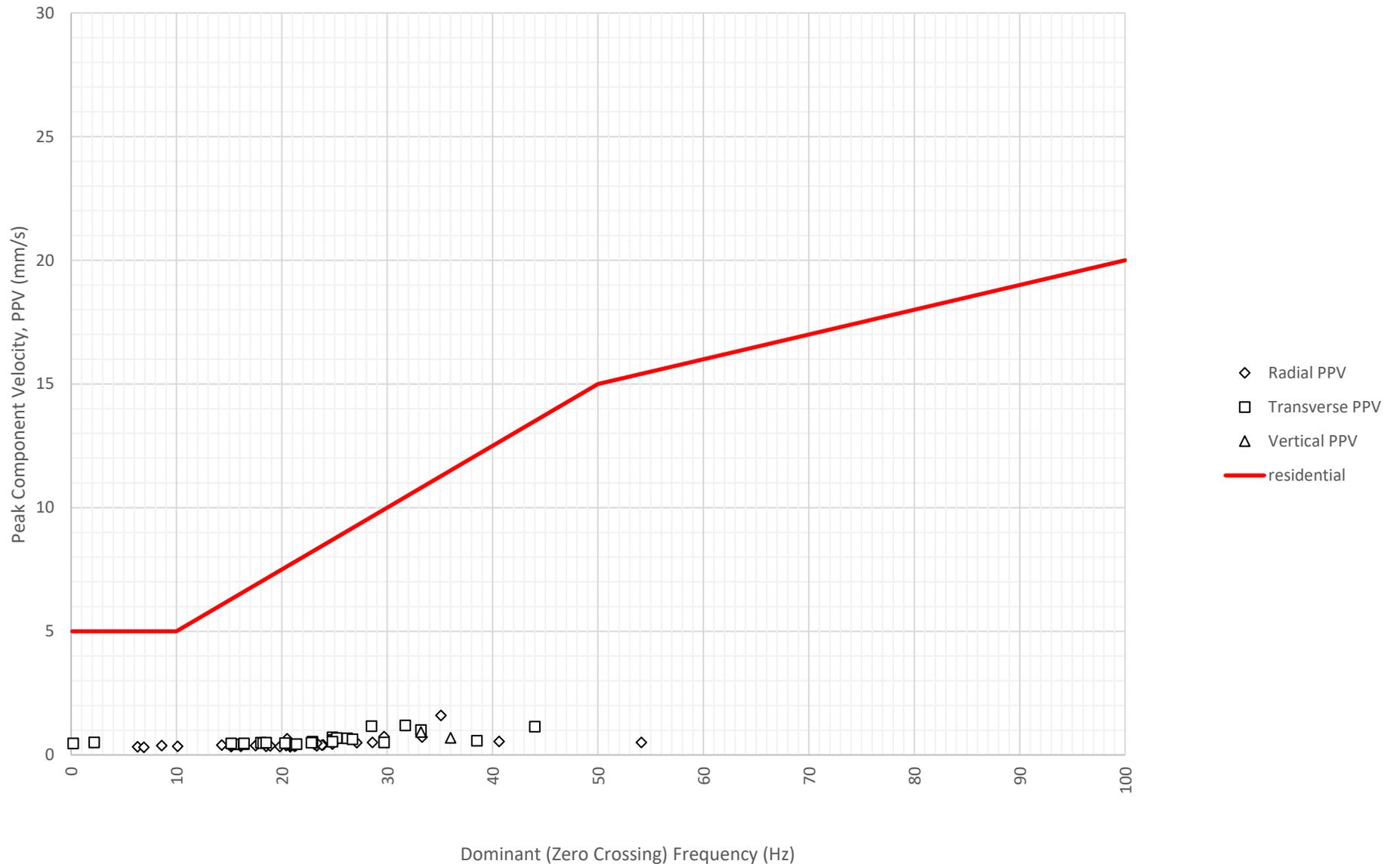
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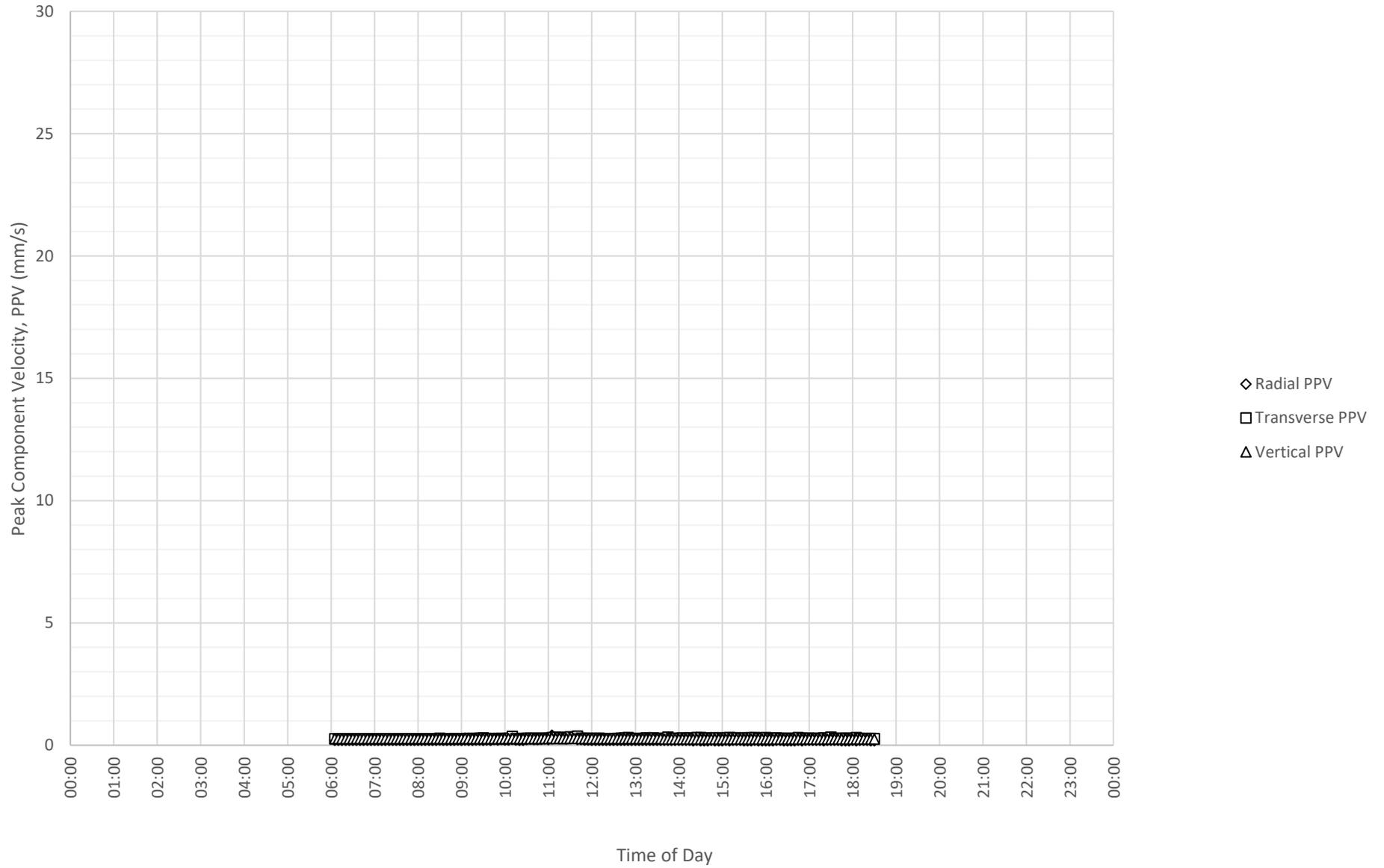
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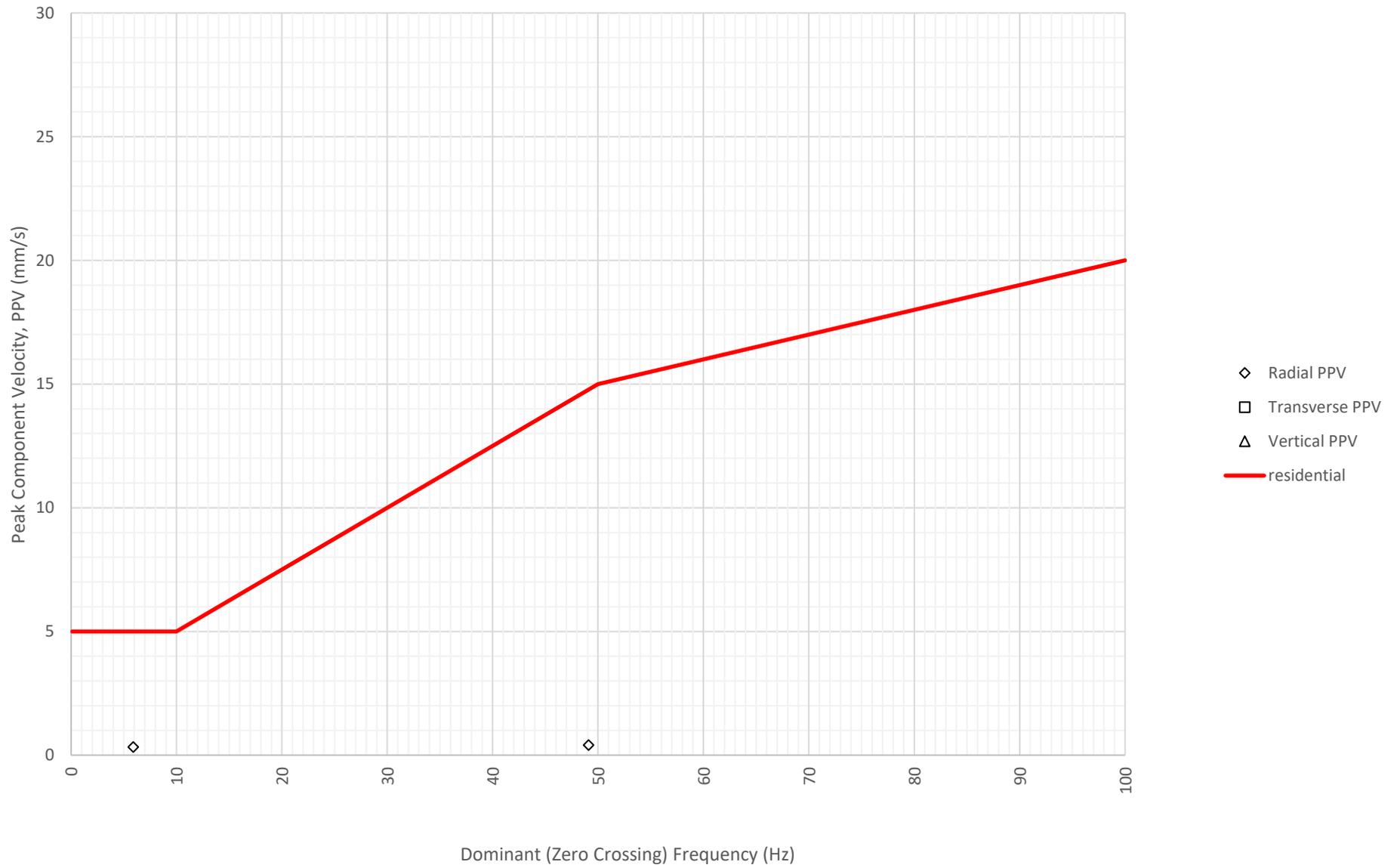
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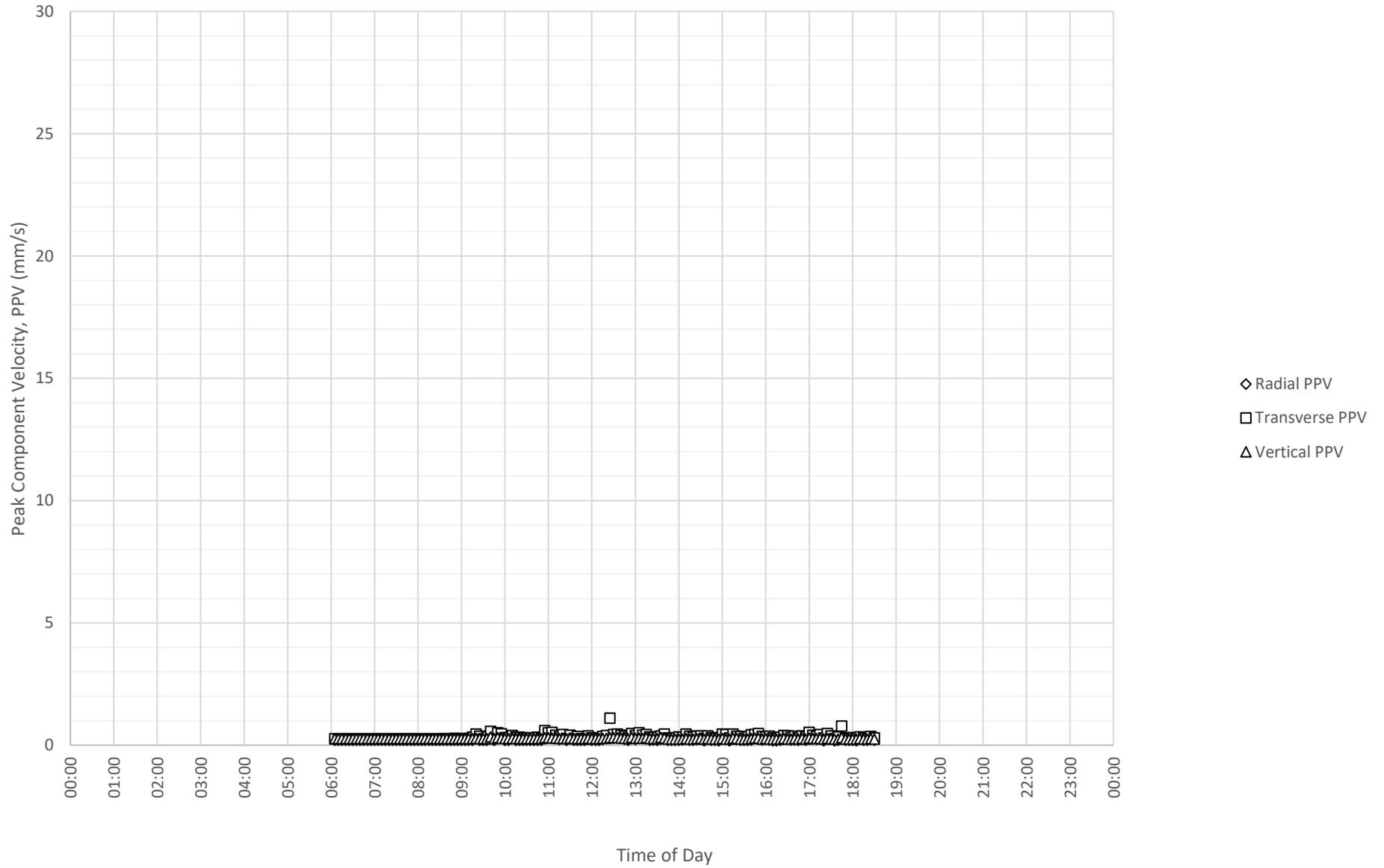
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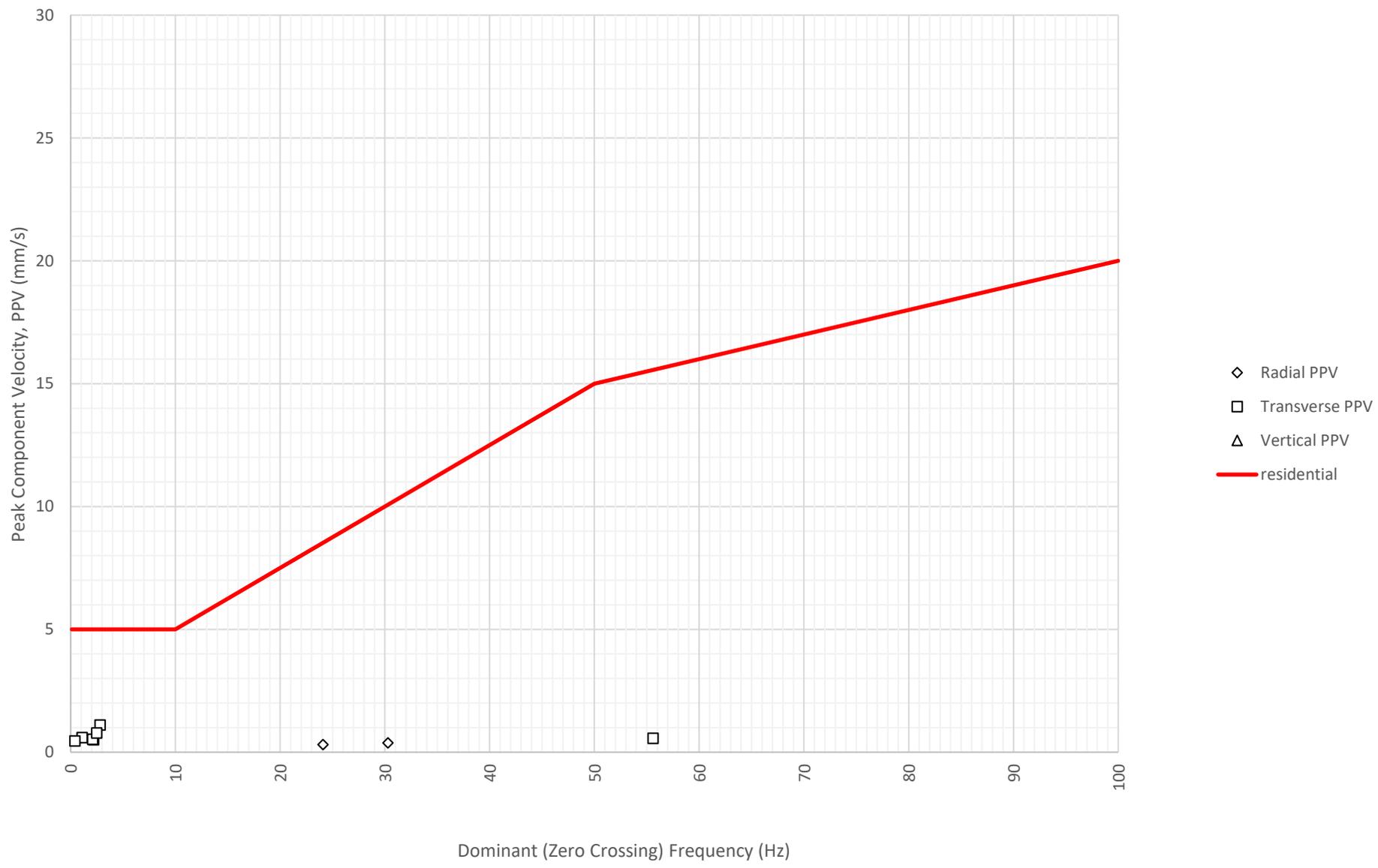
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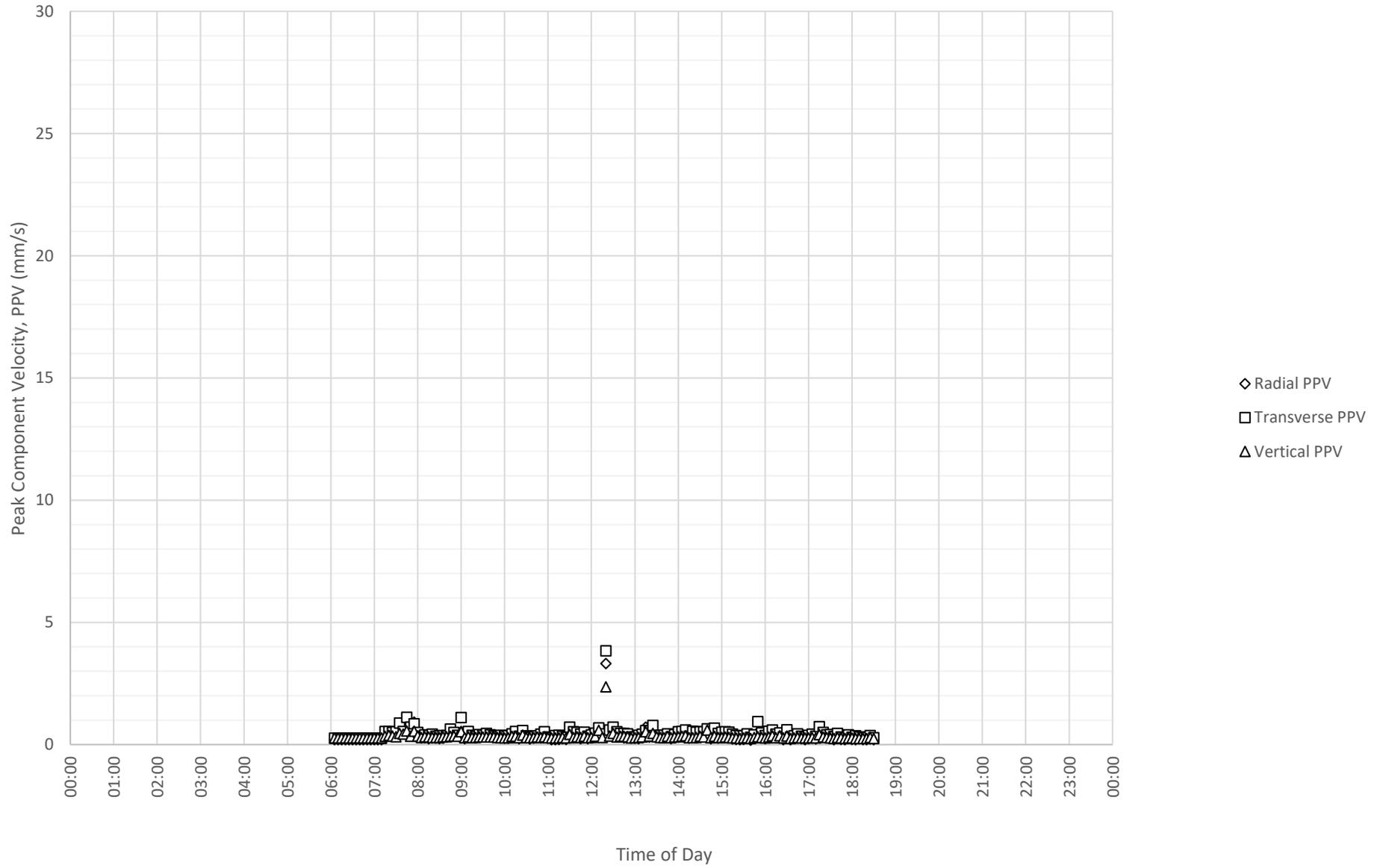
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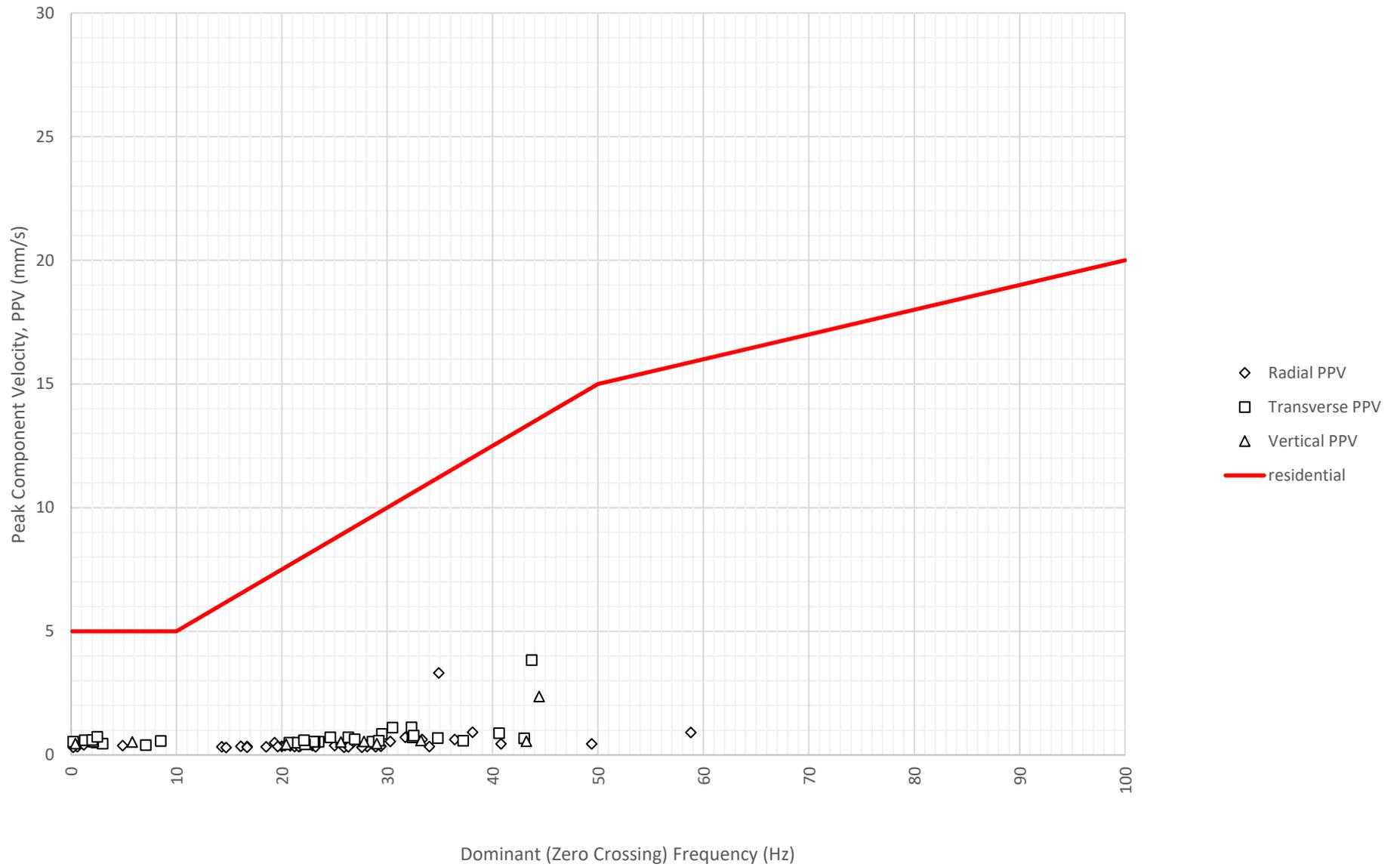
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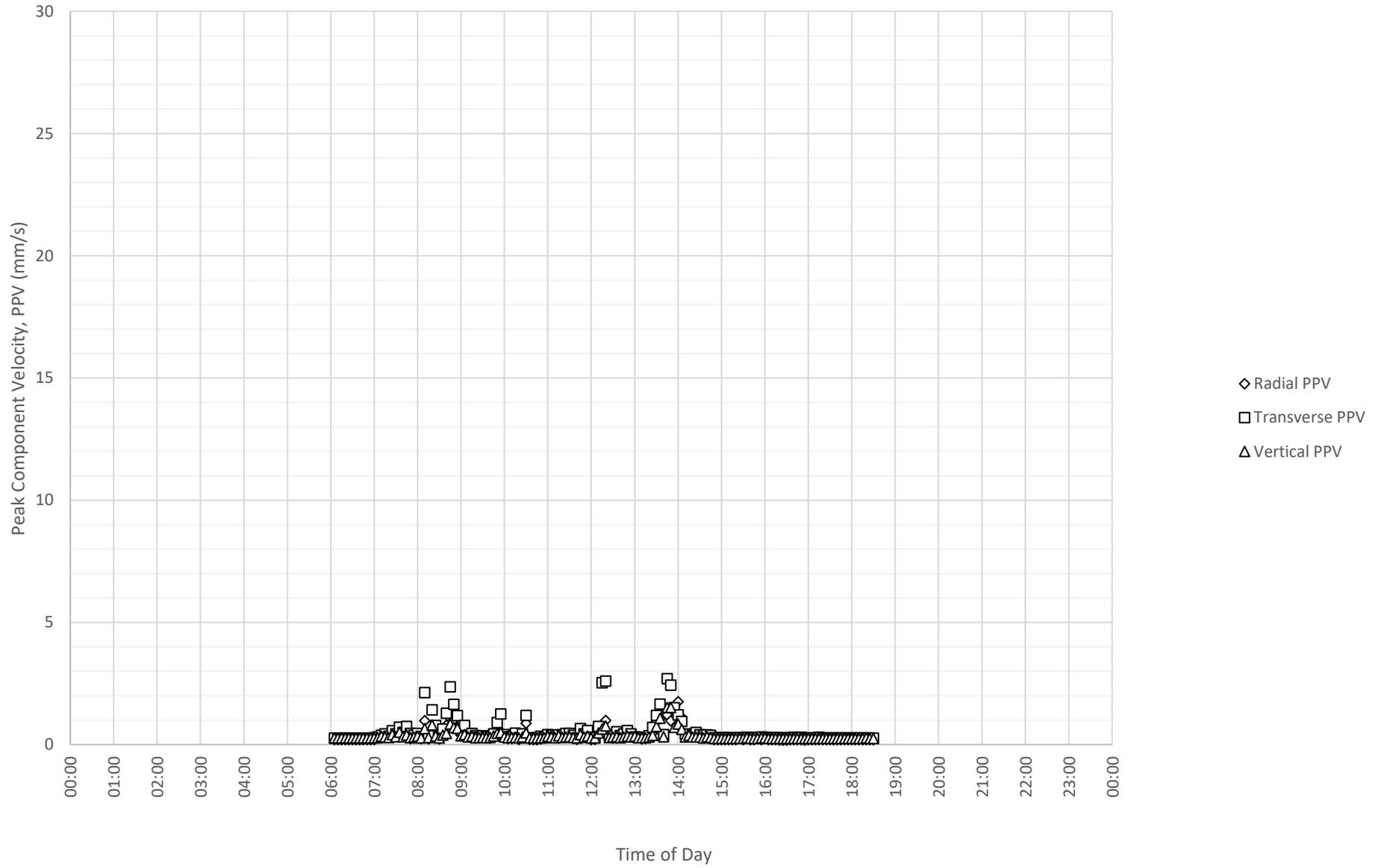
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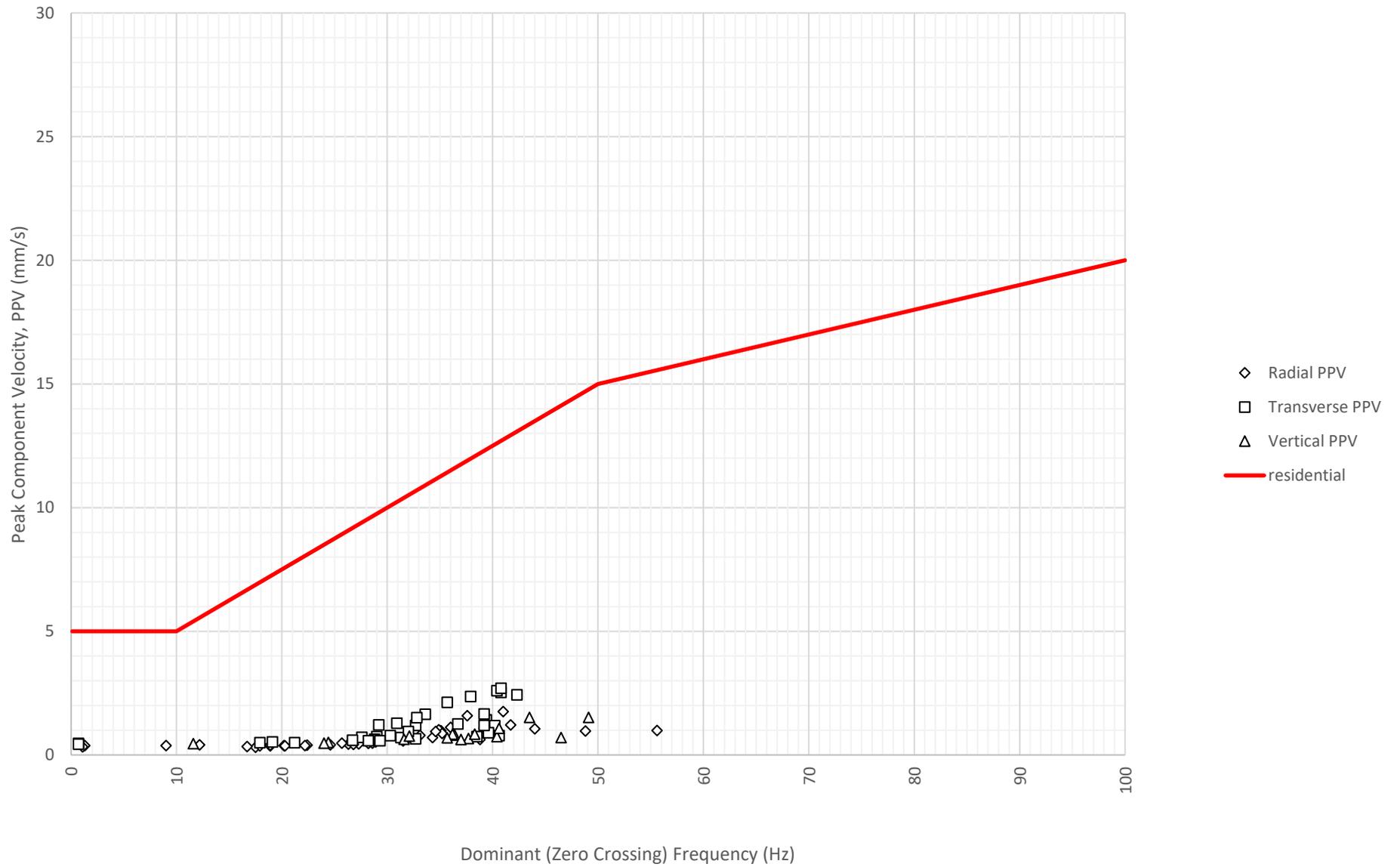
Frequency Content of Vibration Levels at M7715 Residential on 21-11-2022



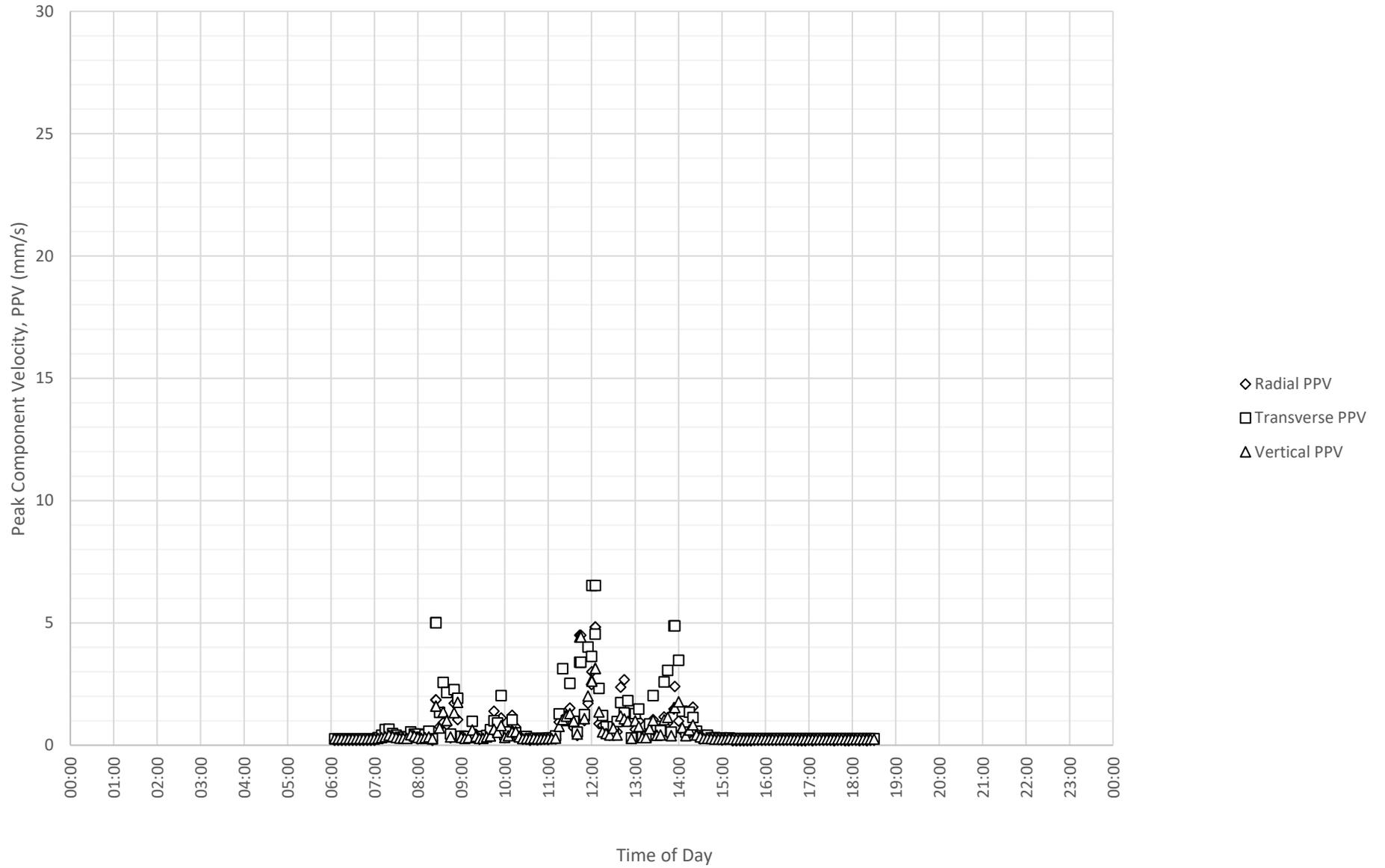
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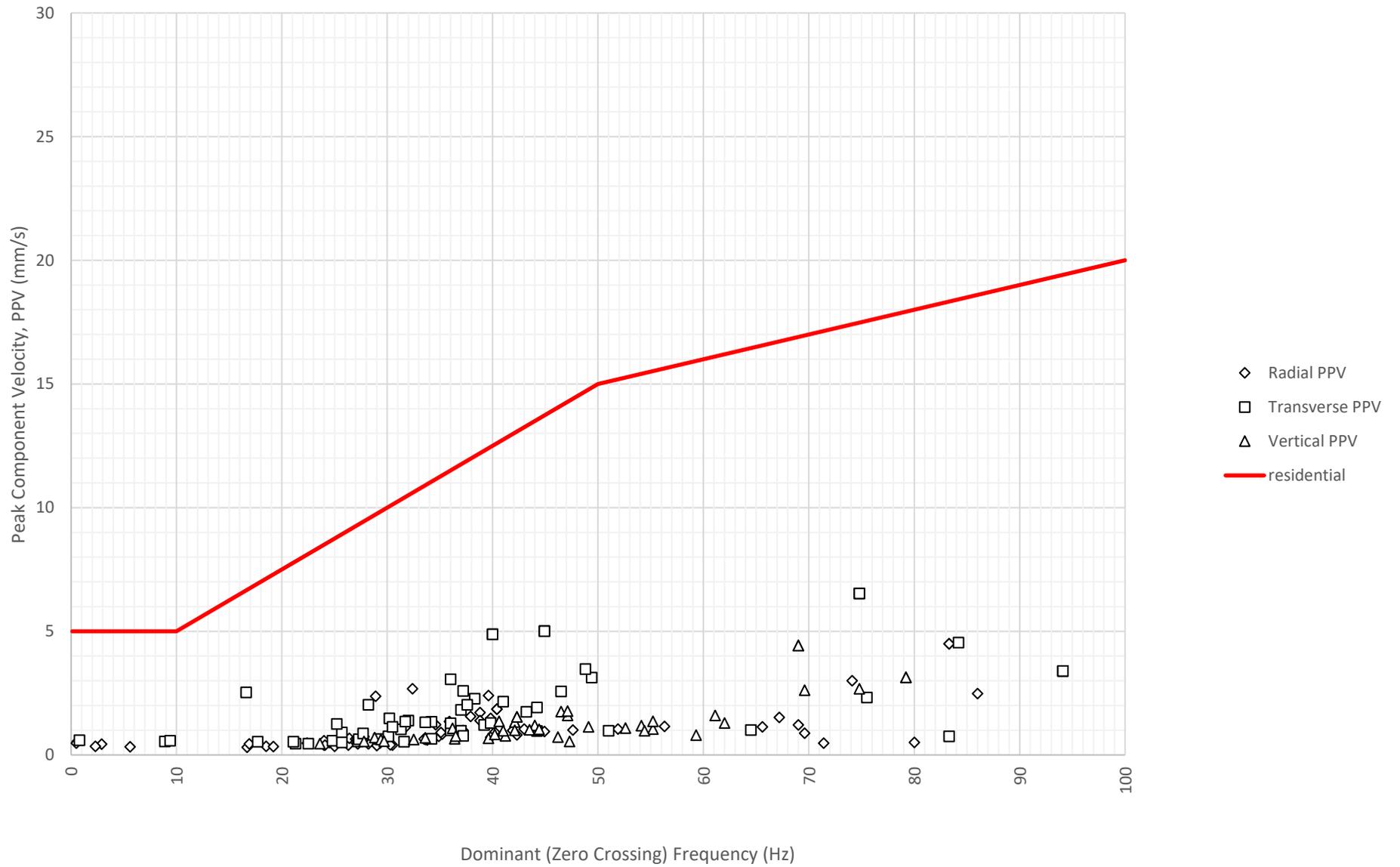
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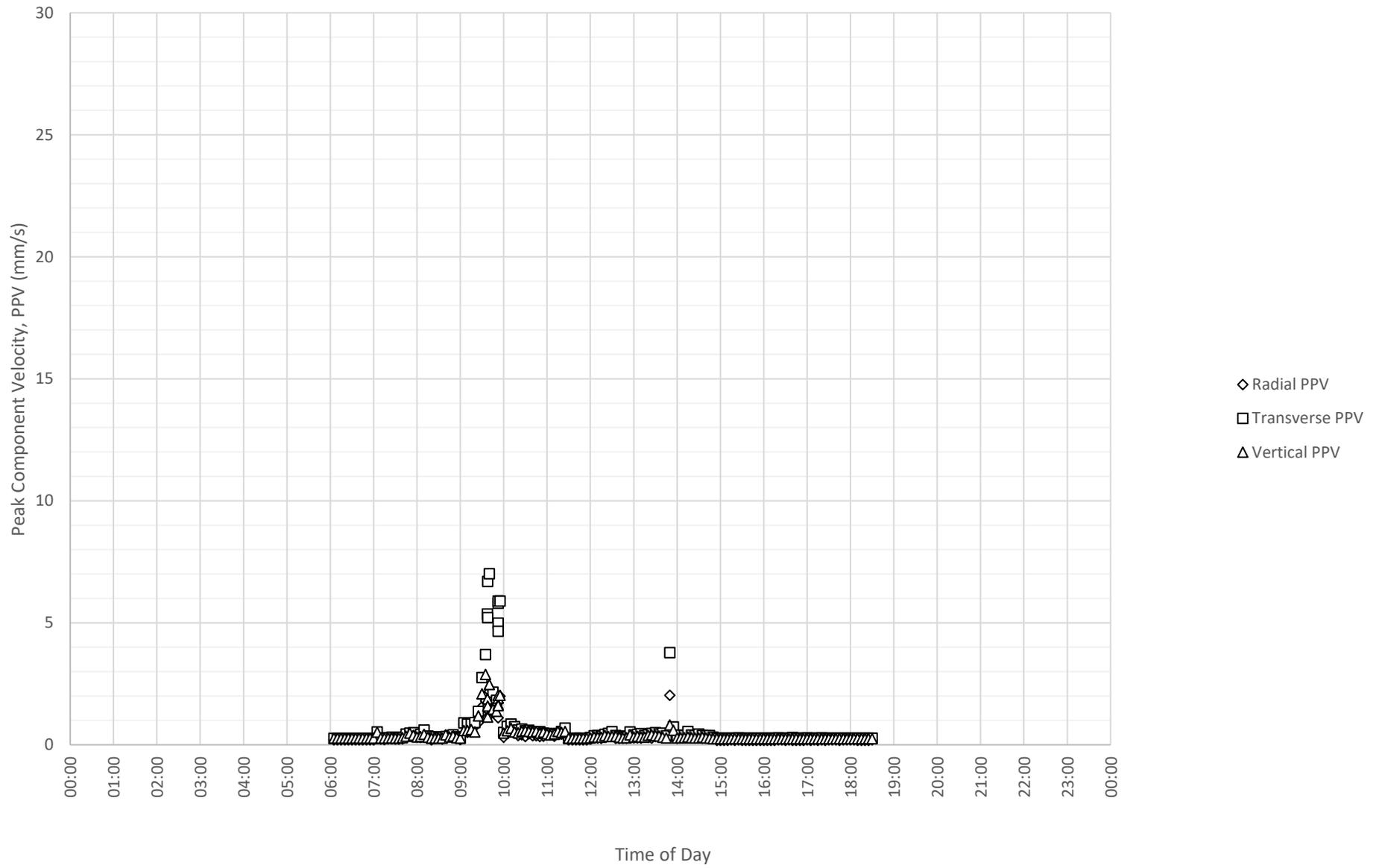
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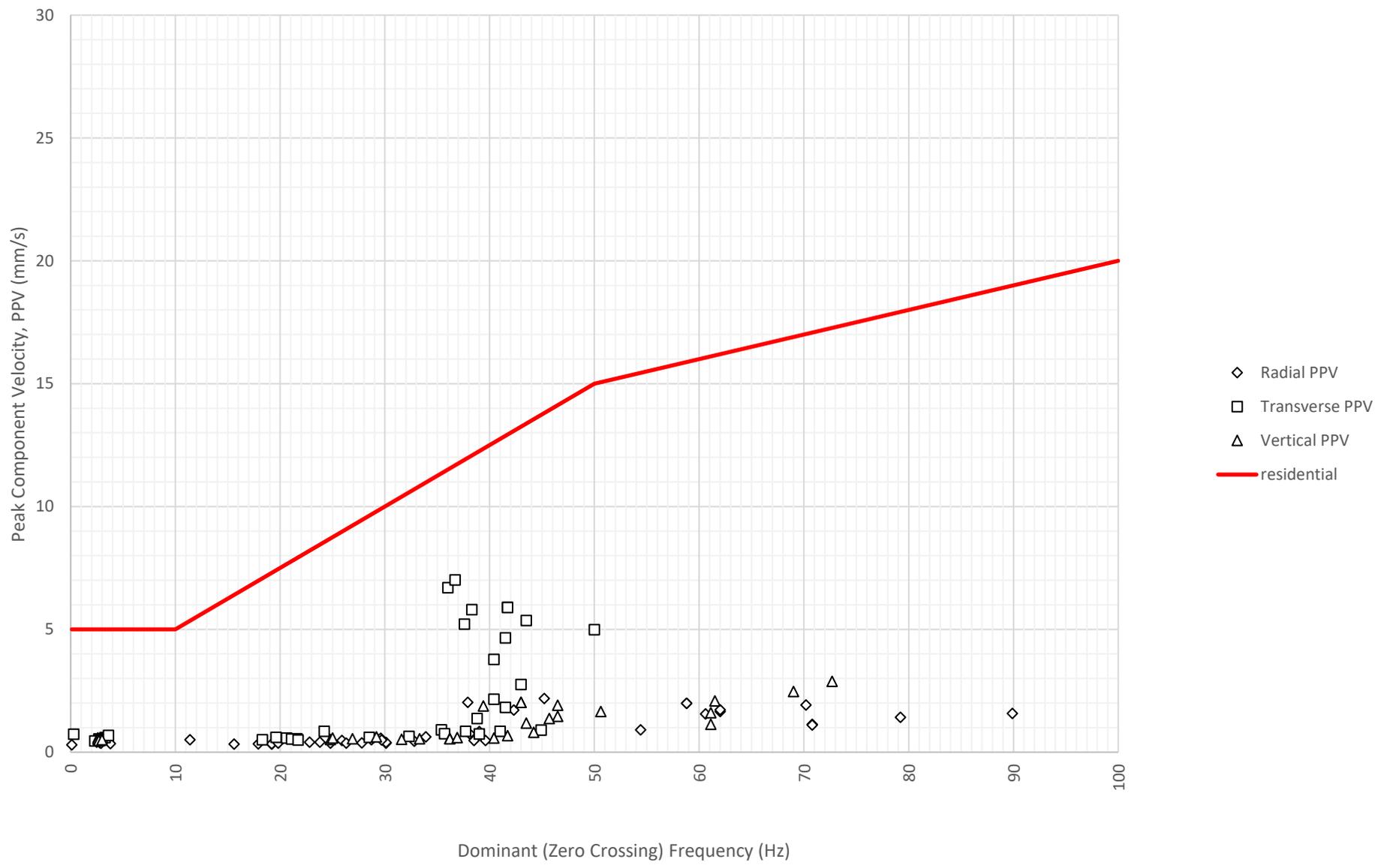
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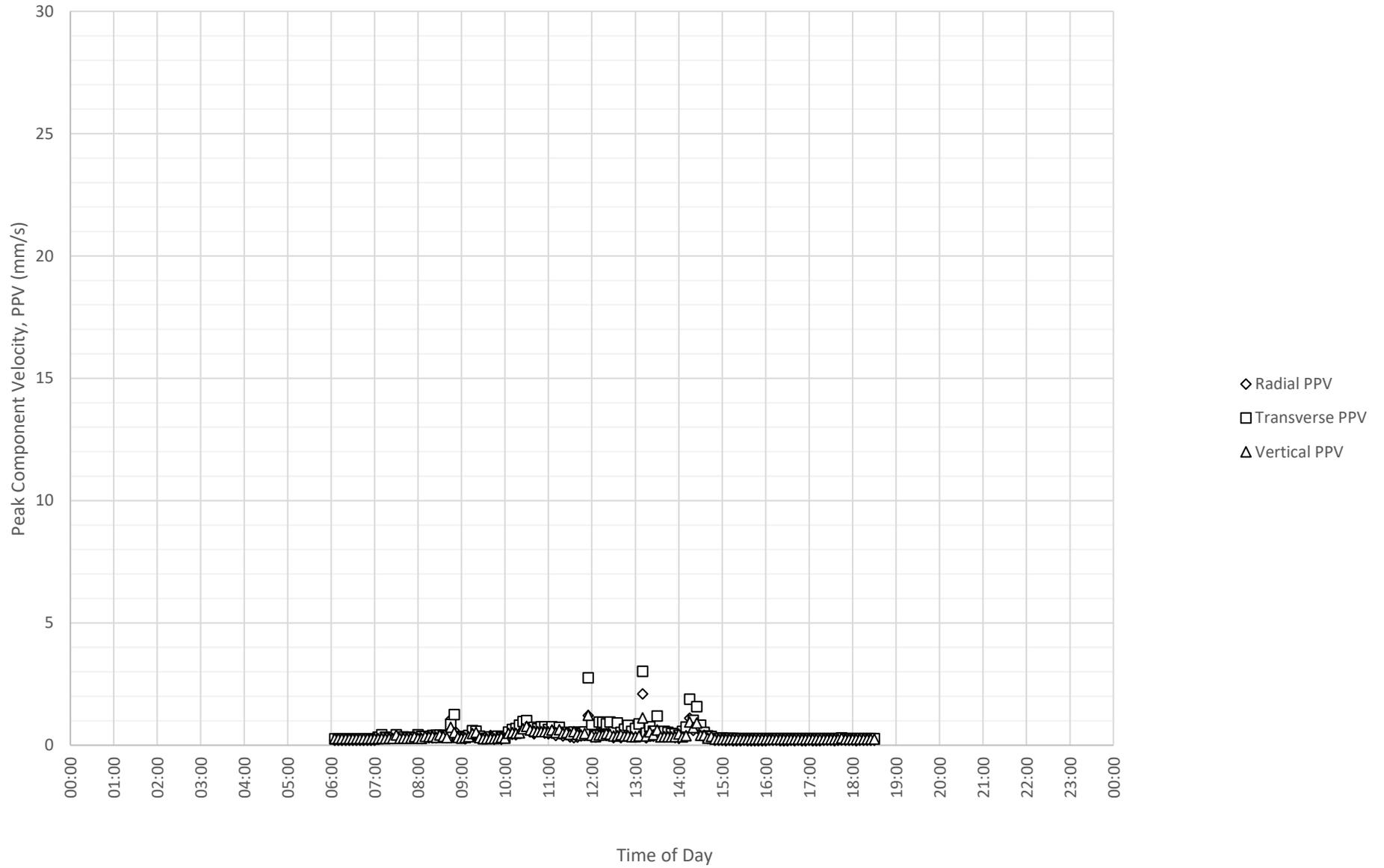
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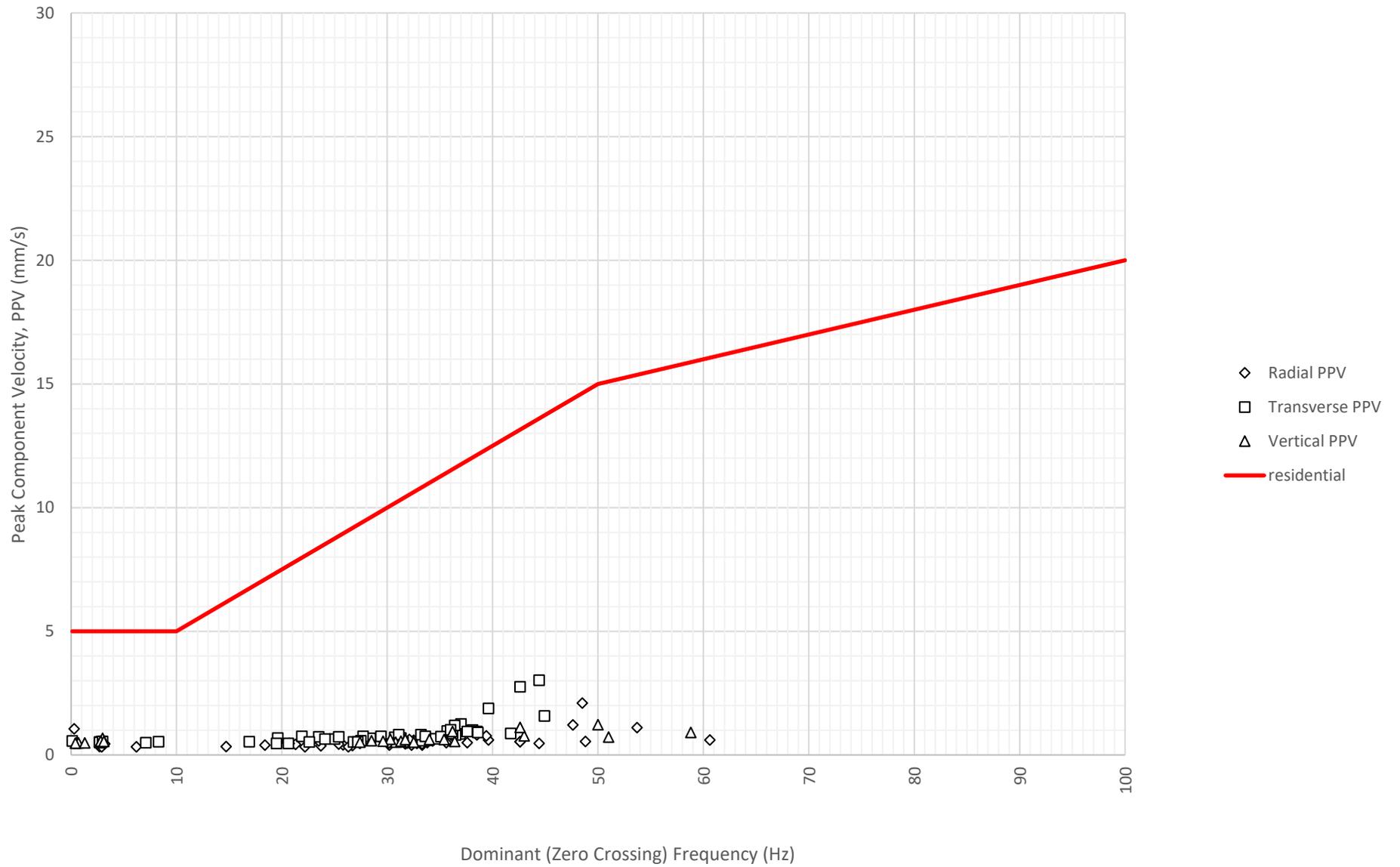
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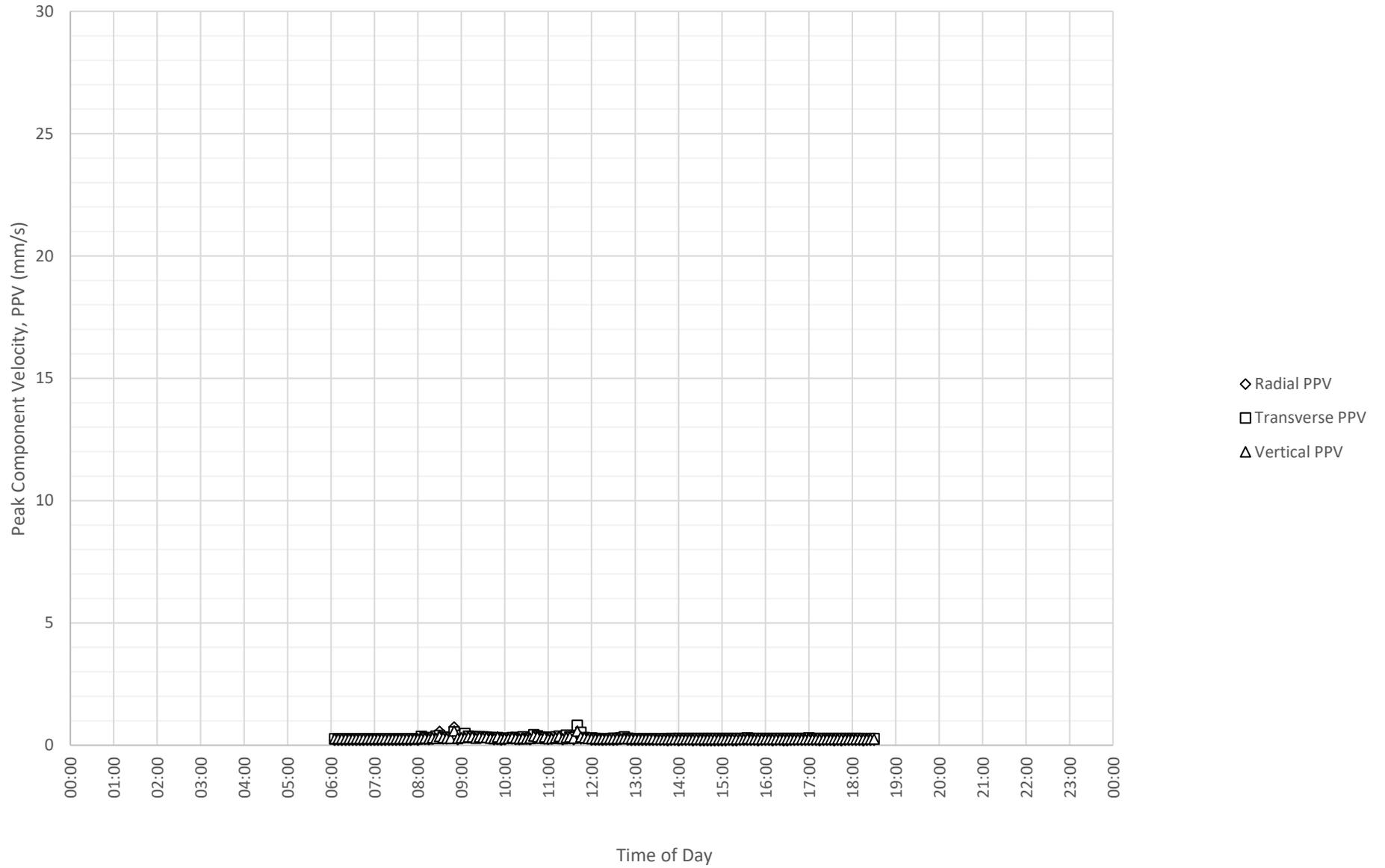
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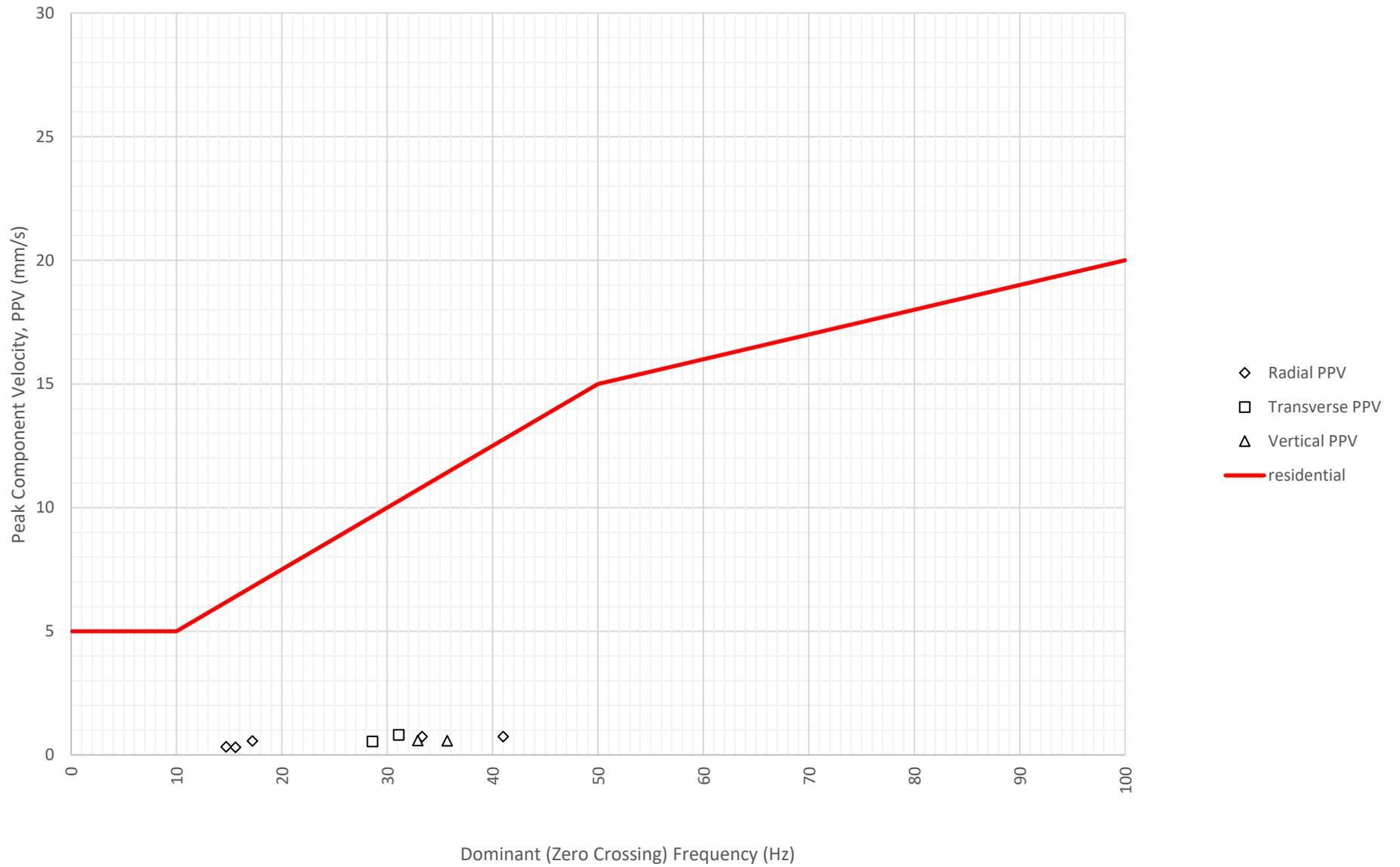
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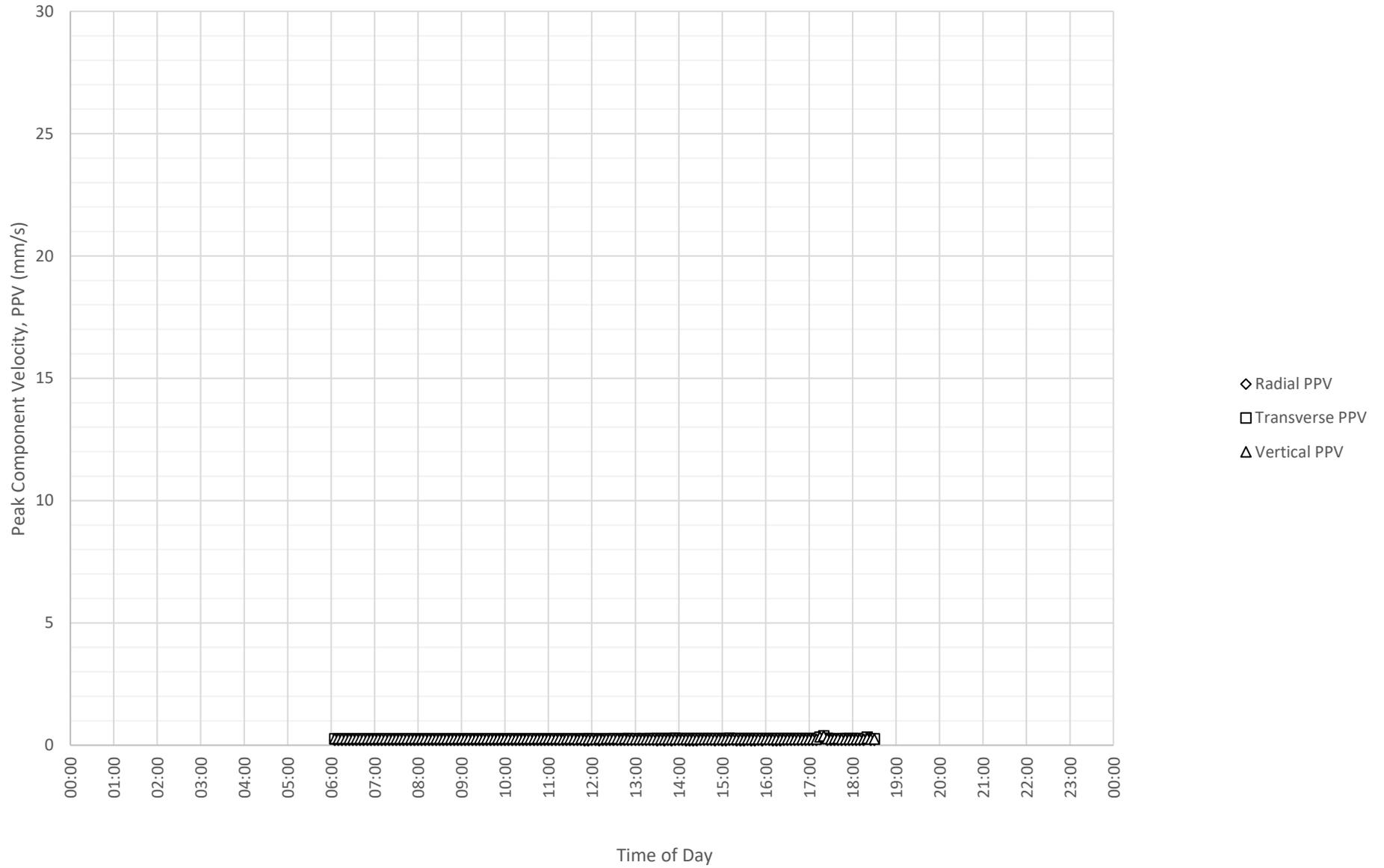
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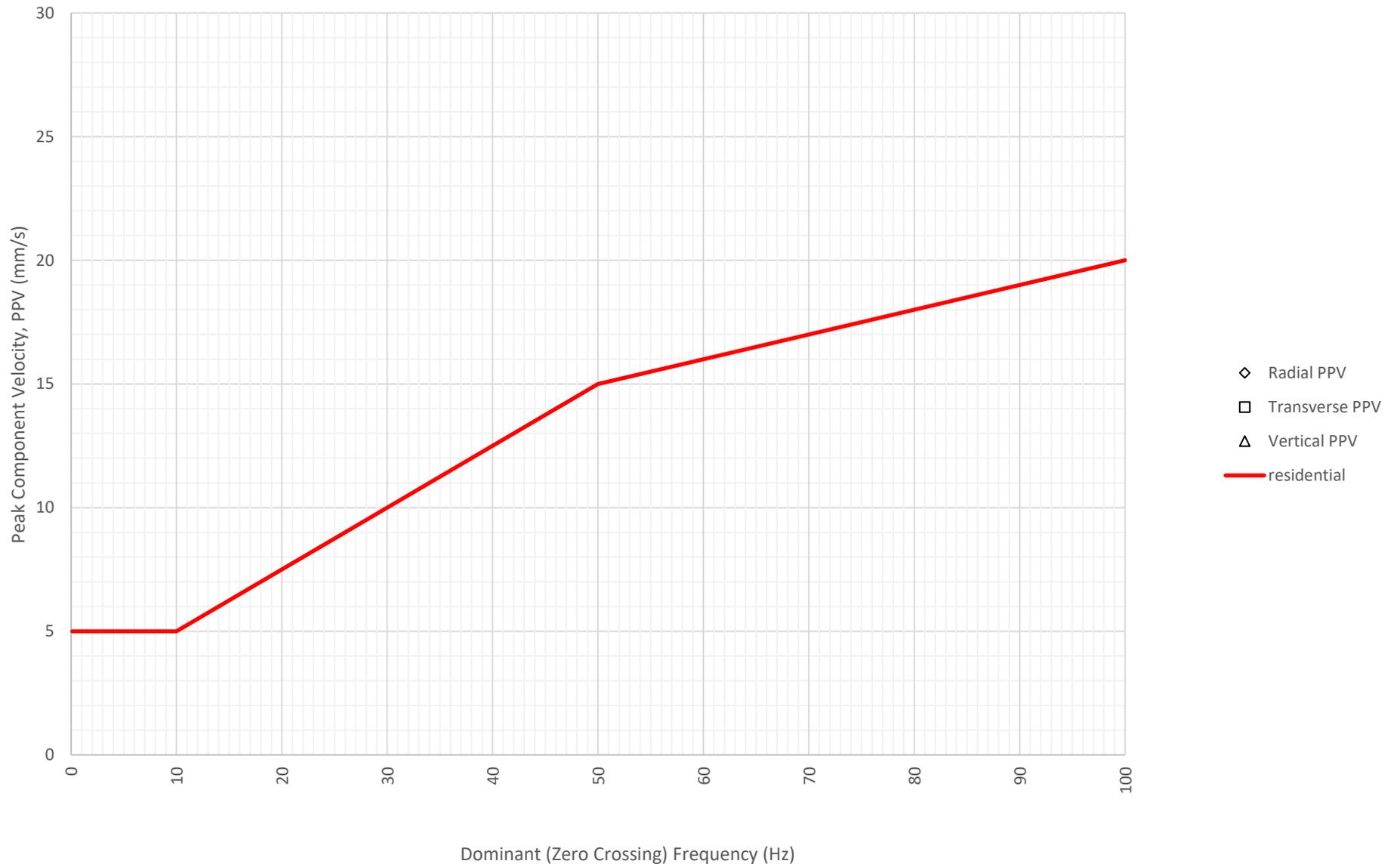
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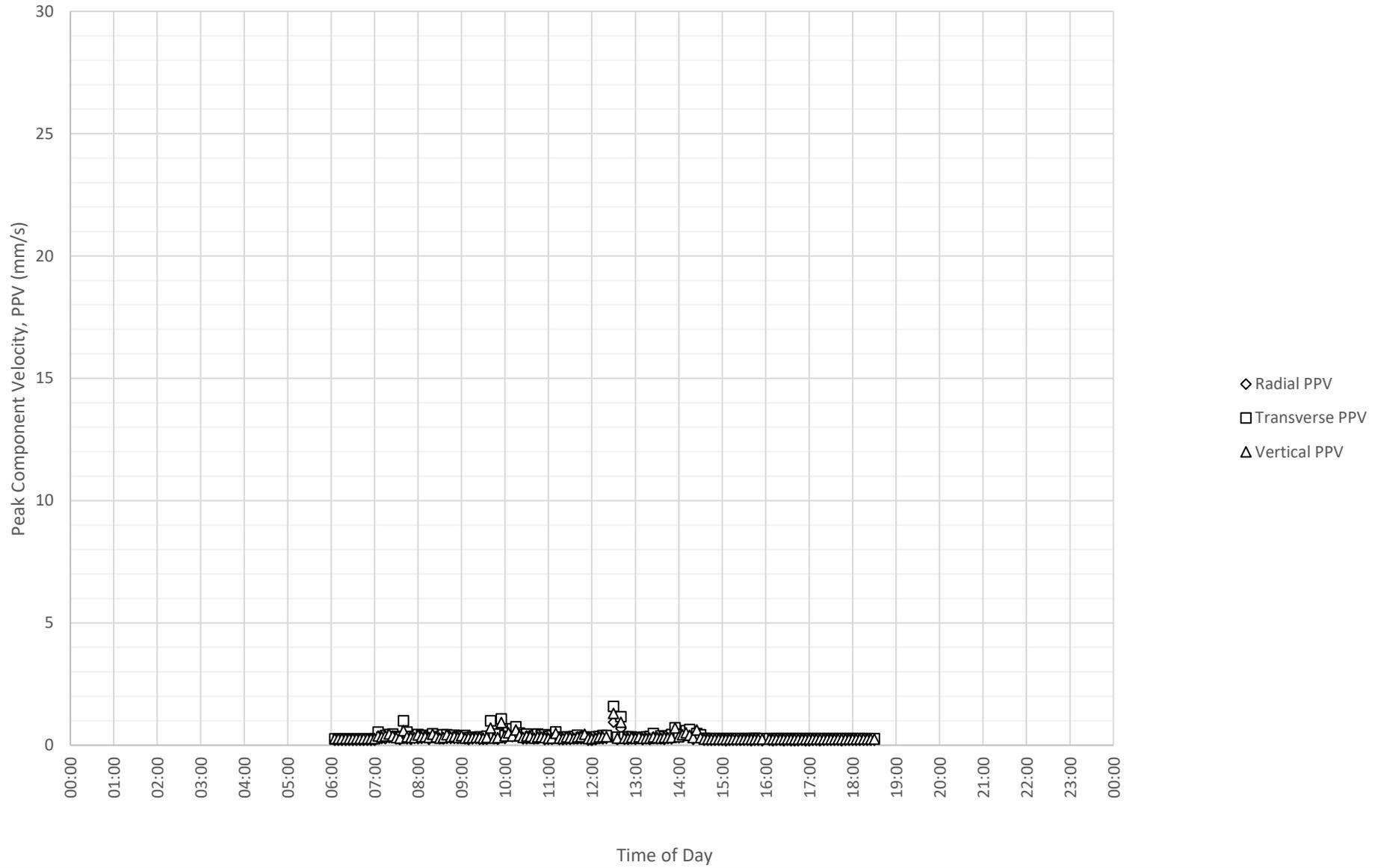
Daily Monitored Vibration Levels at M7715 Residential on 27-11-2022



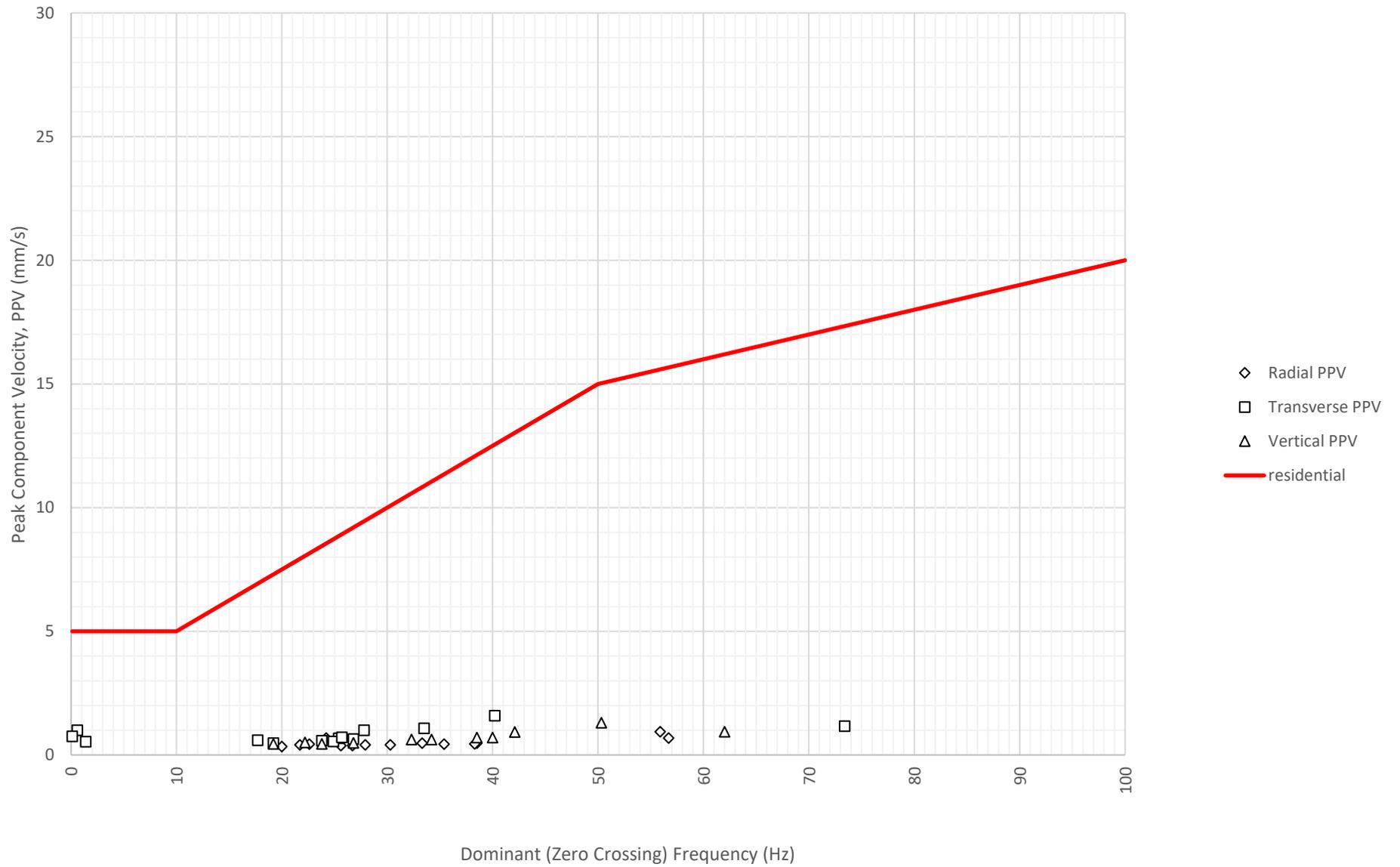
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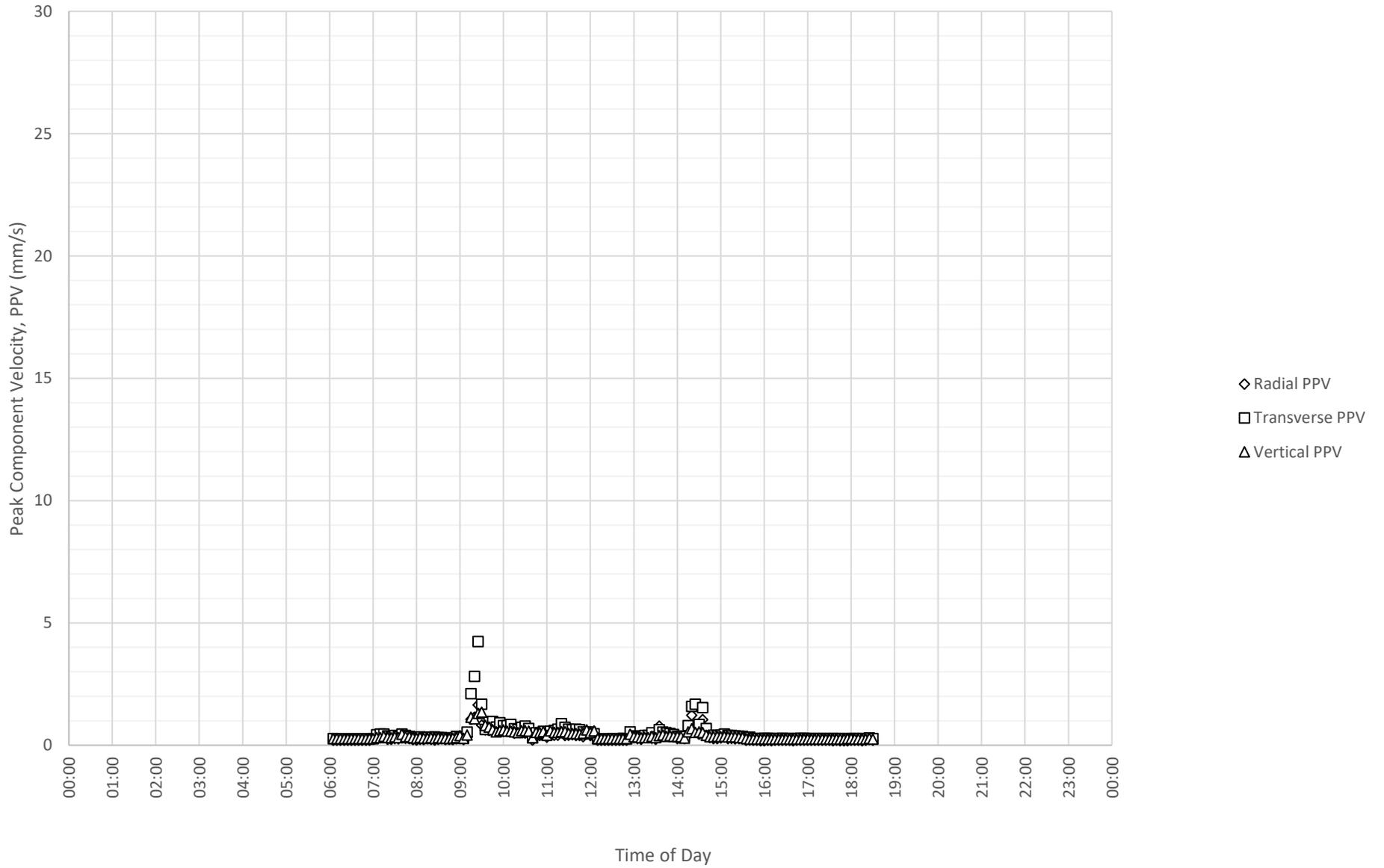
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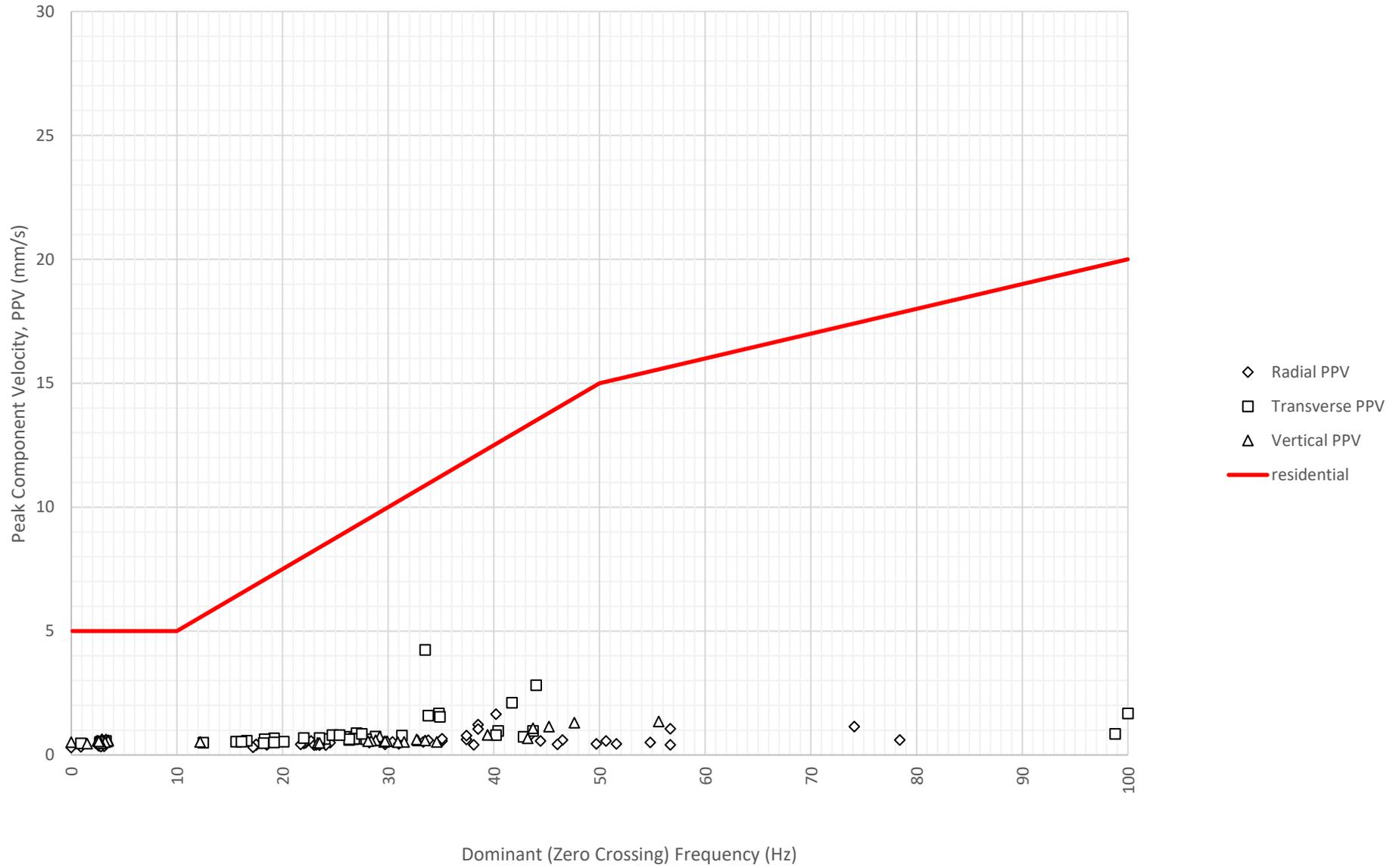
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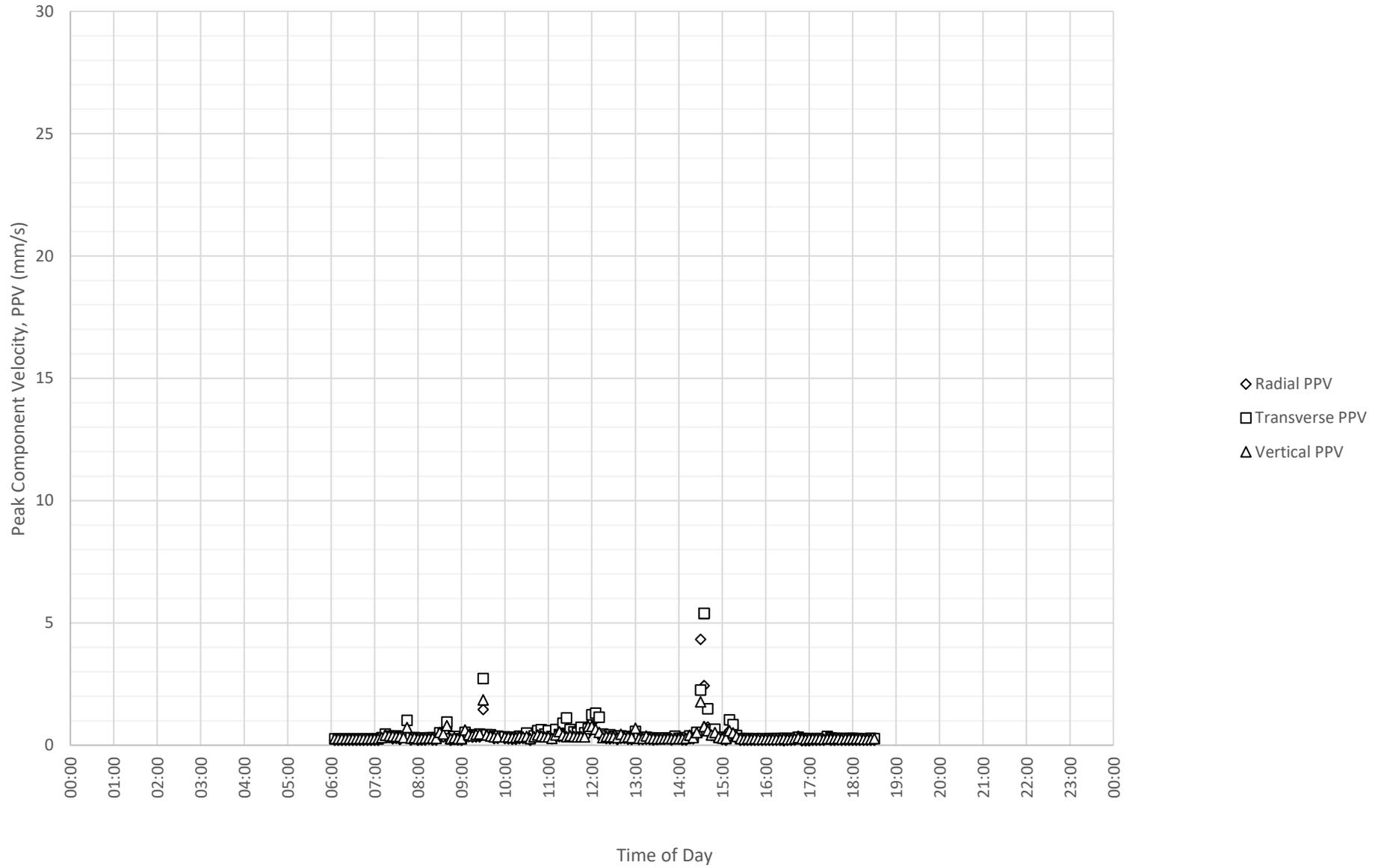
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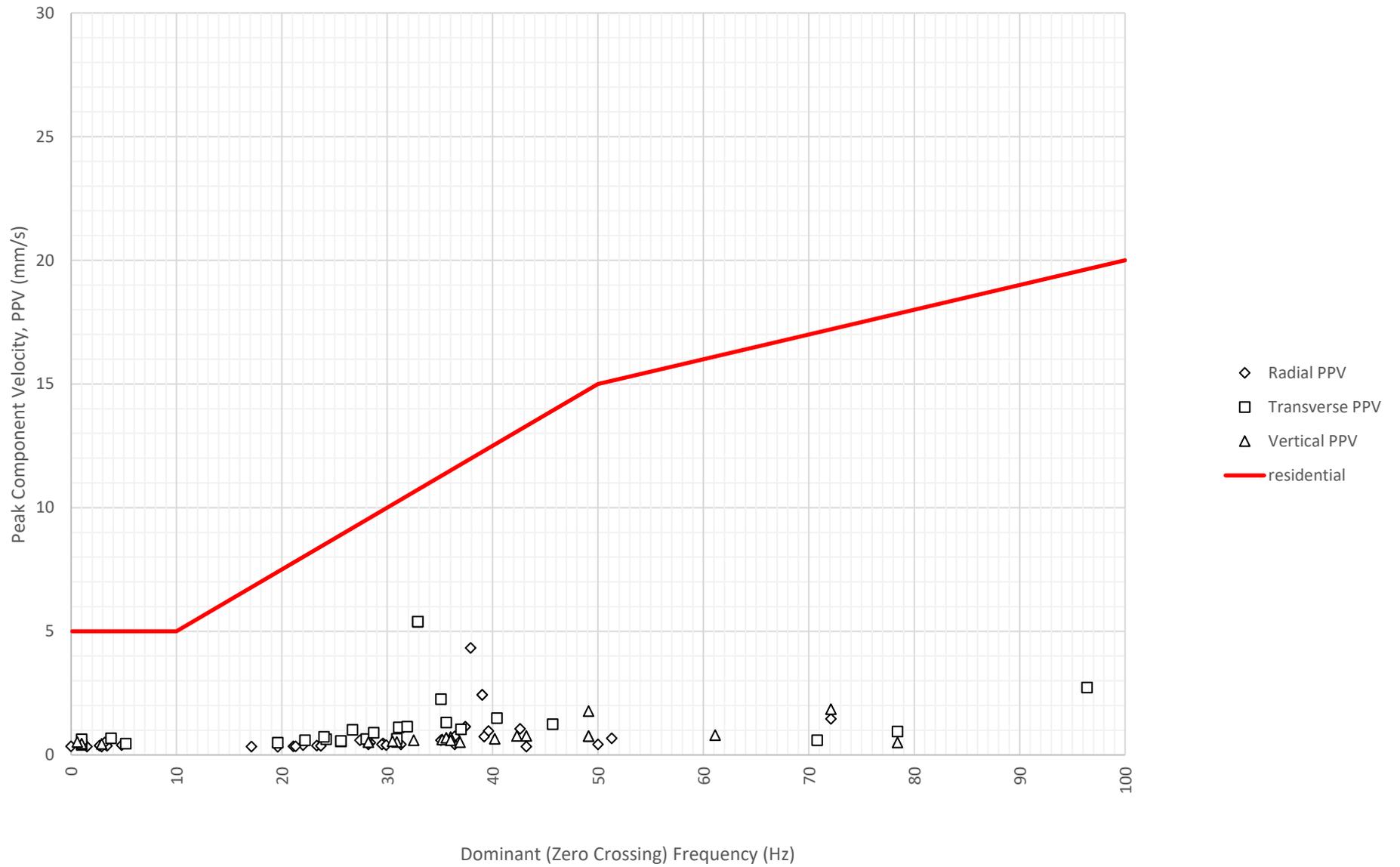
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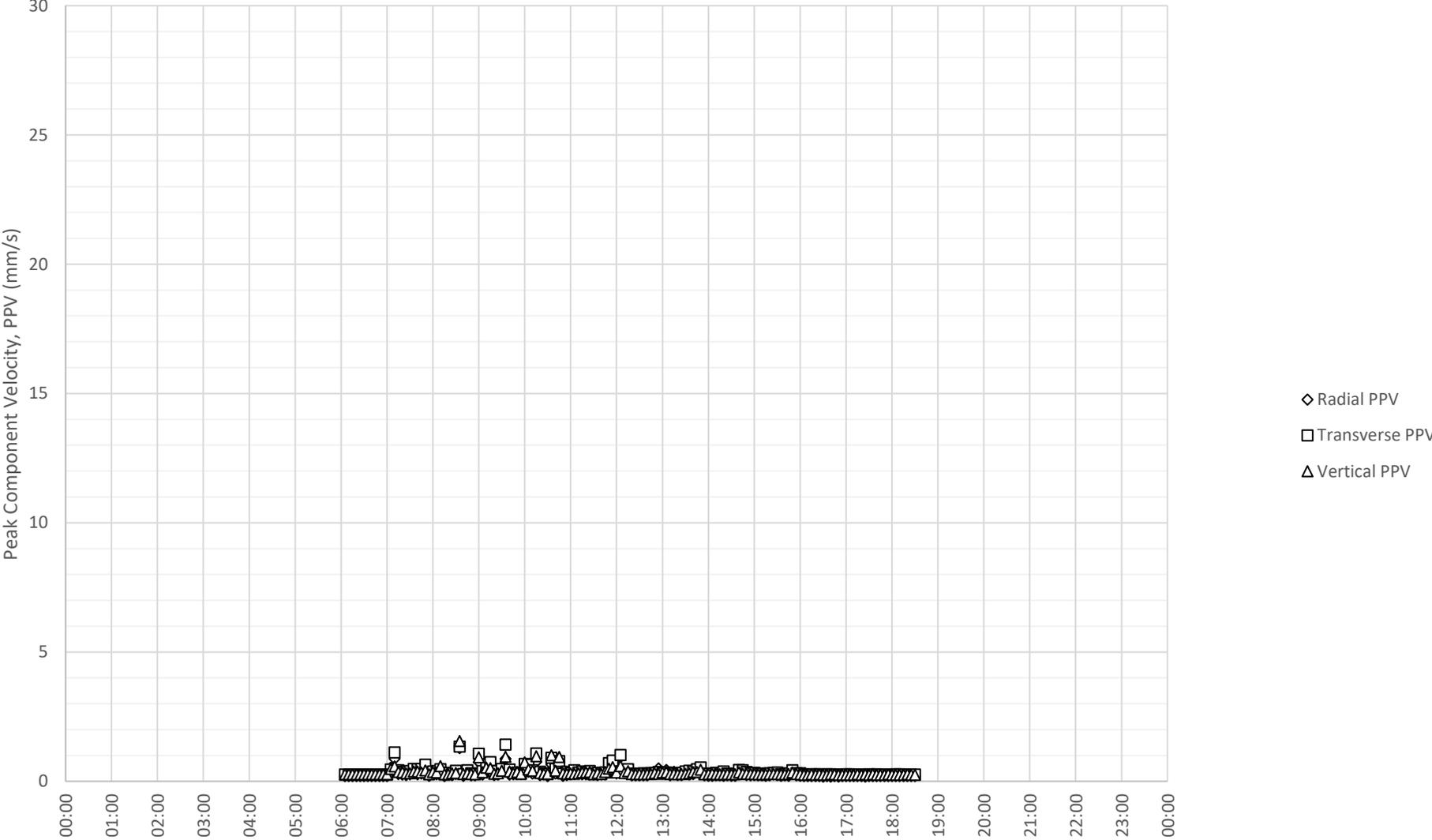
Daily Monitored Vibration Levels at M7715 Residential on 30-11-2022



Frequency Content of Vibration Levels at M7715 Residential on 30-11-2022

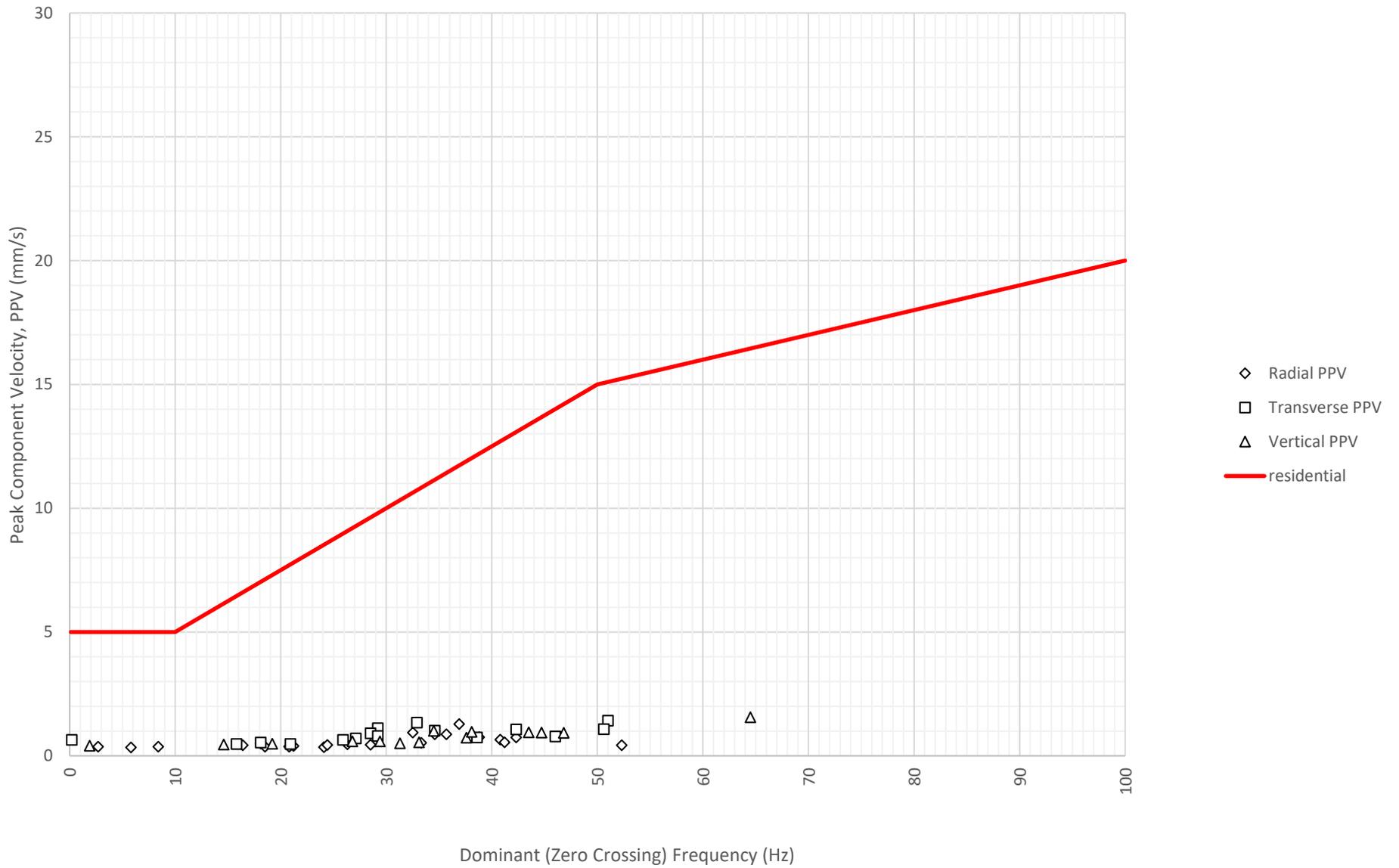


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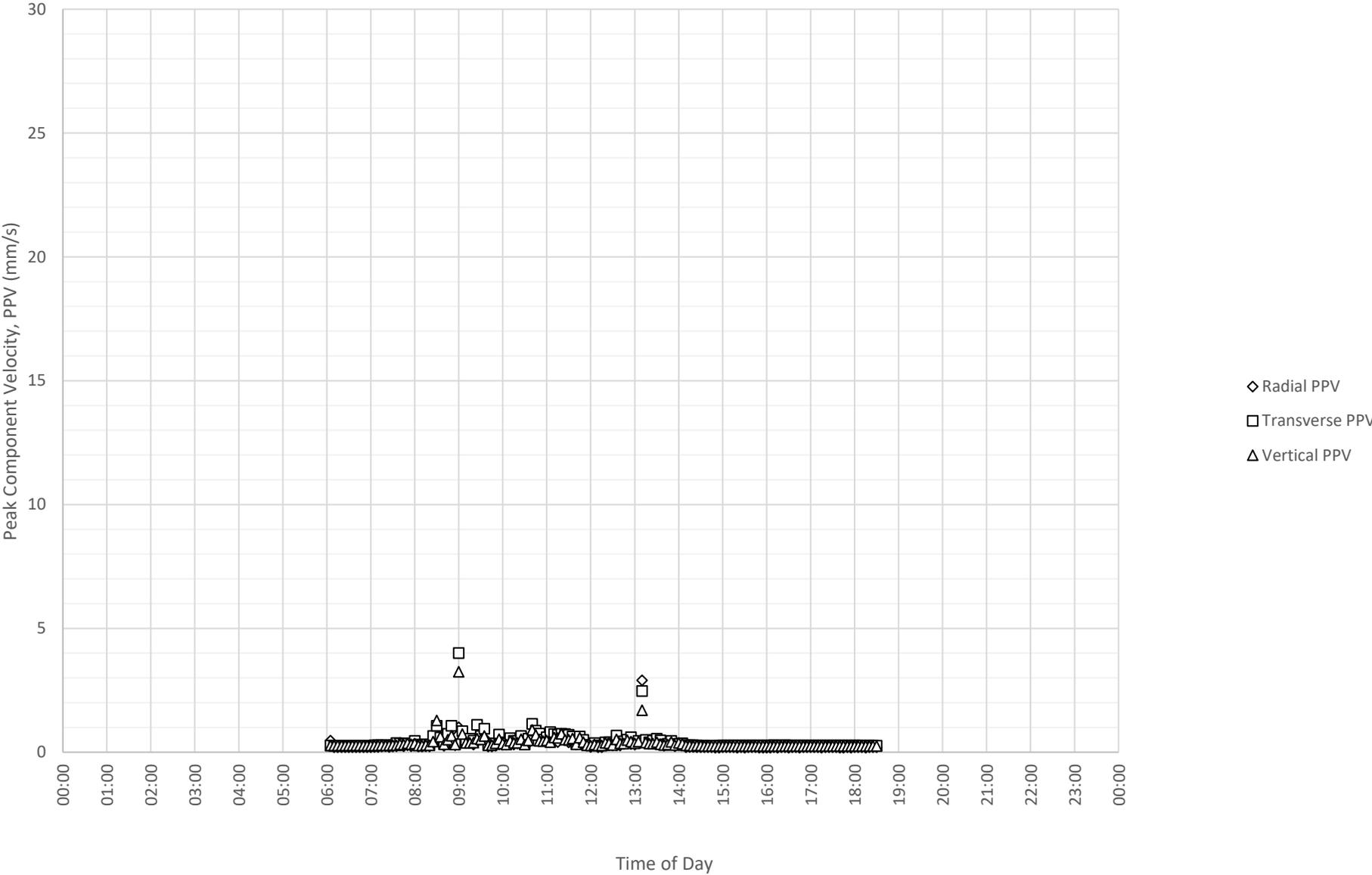


Time of Day

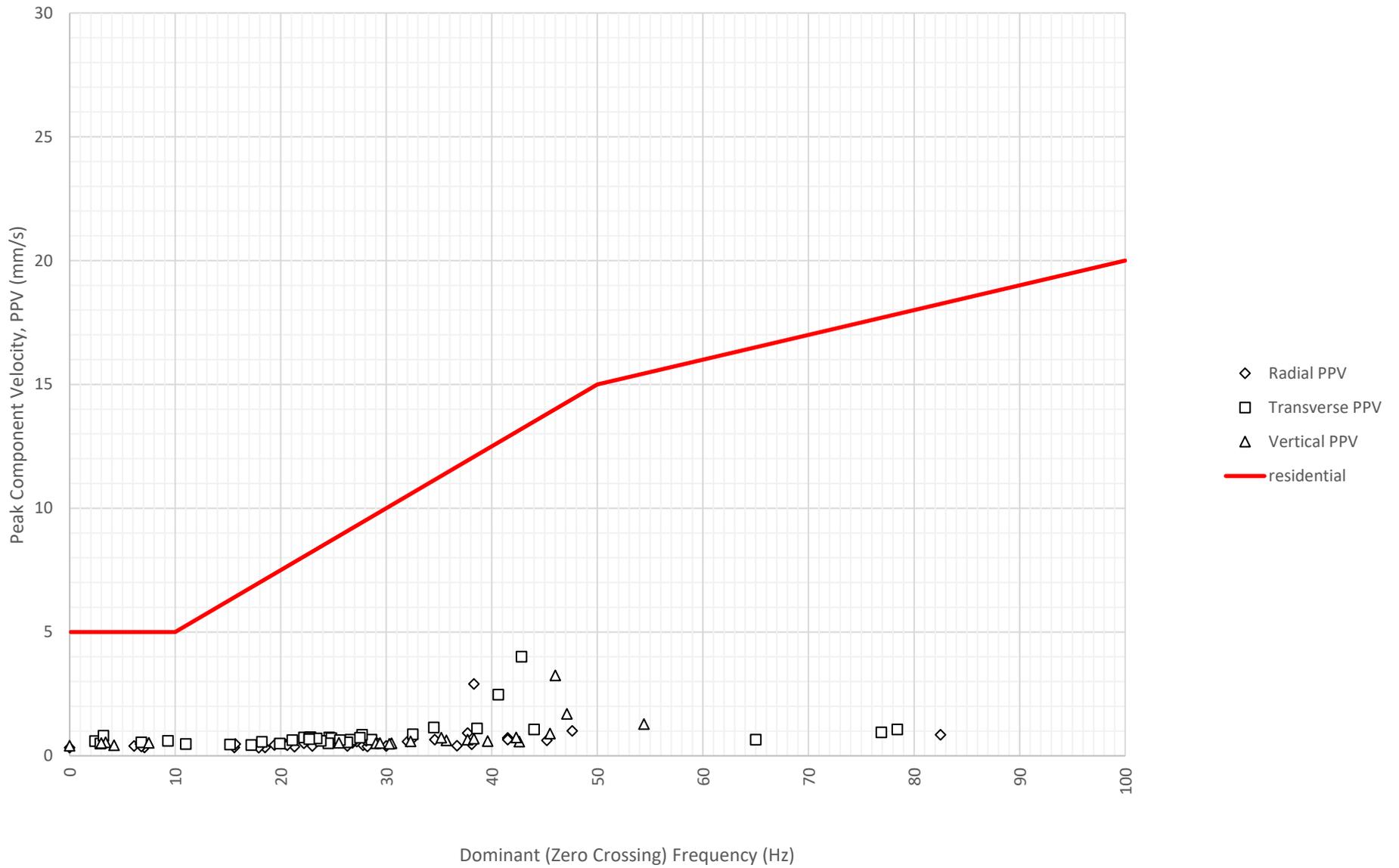
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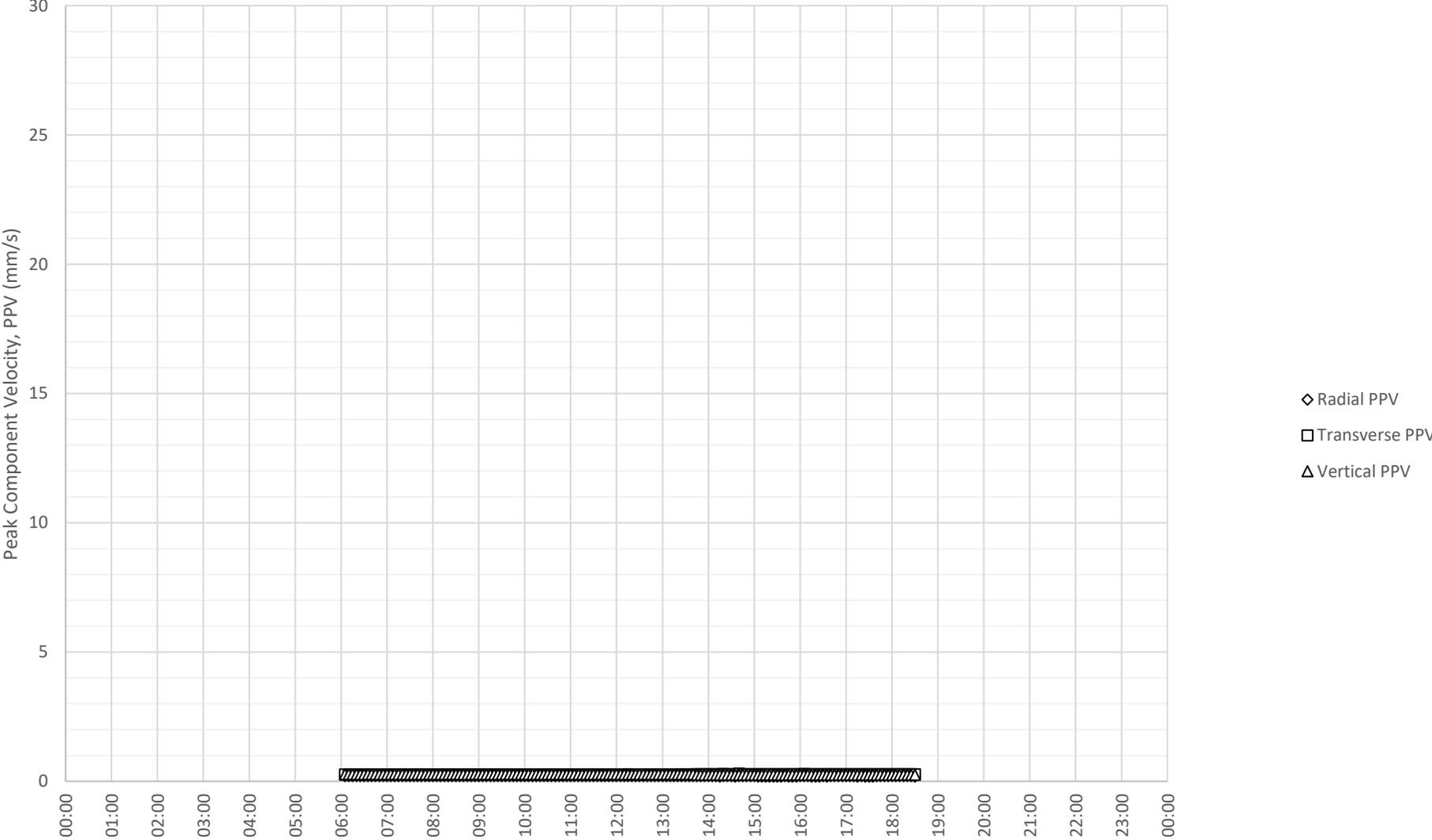
Daily Monitored Vibration Levels at M7715 Residential on 2-12-2022



Frequency Content of Vibration Levels at M7715 Residential on 2-12-2022

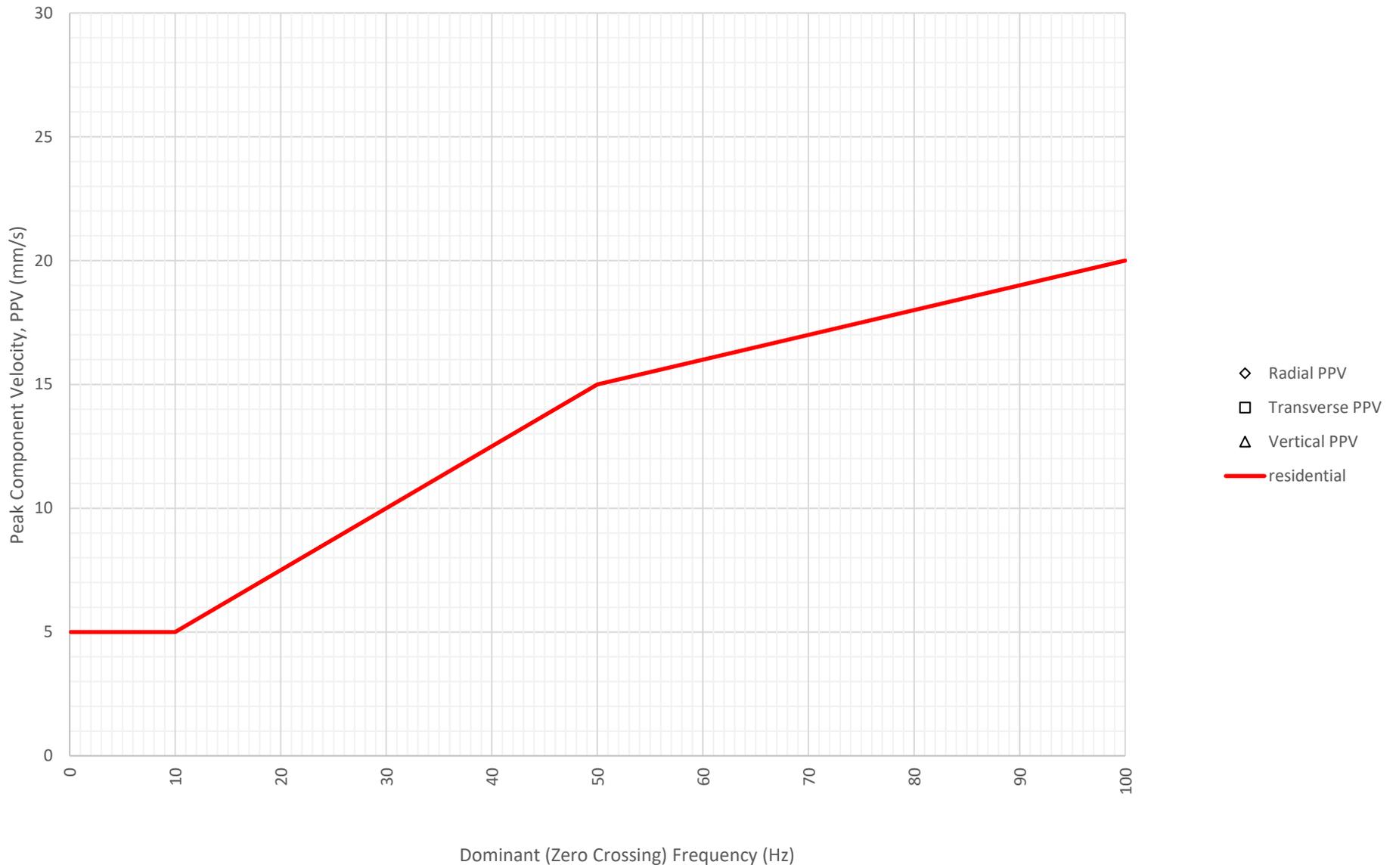


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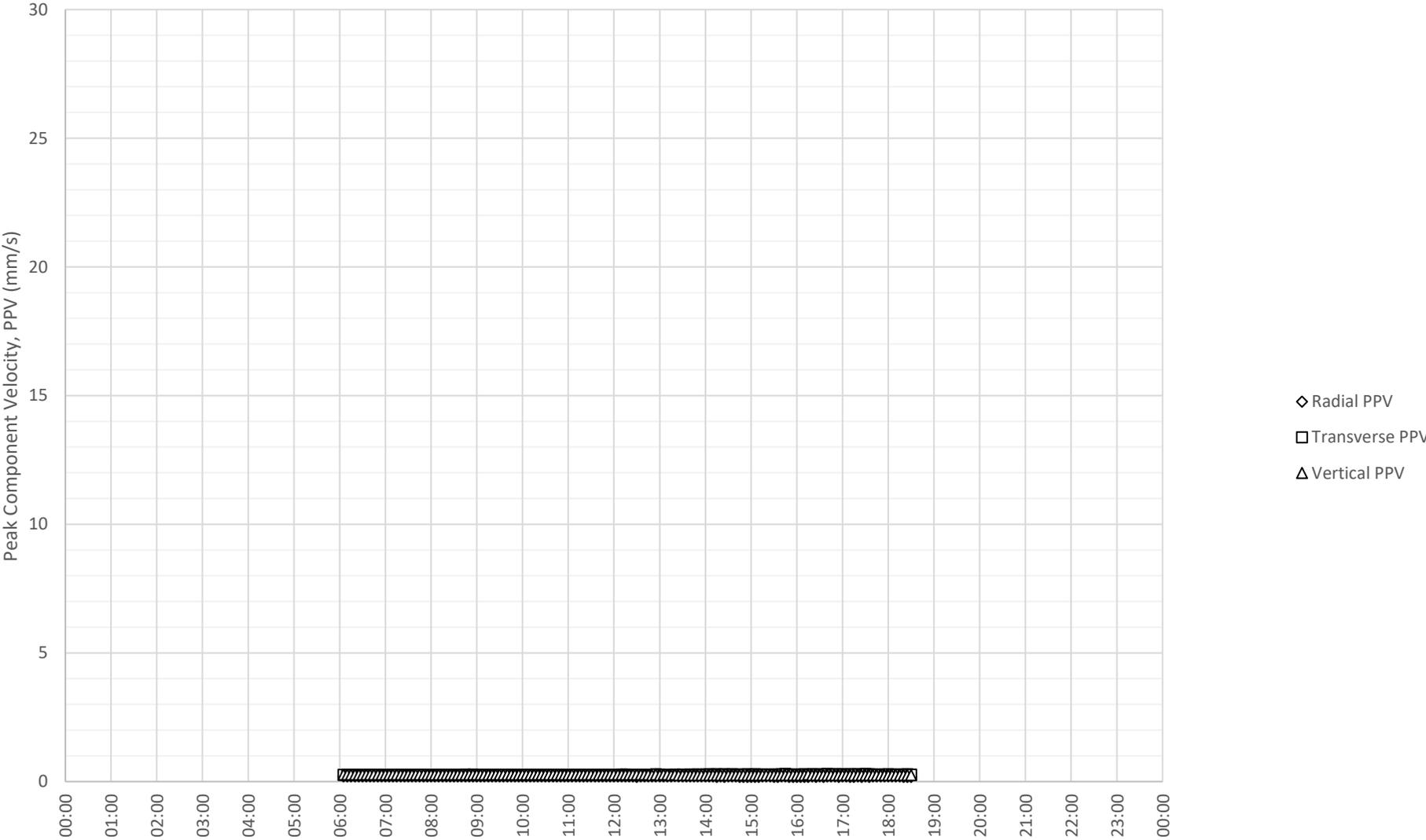


Time of Day

Frequency Content of Vibration Levels at M7715 Residential on 3-12-2022

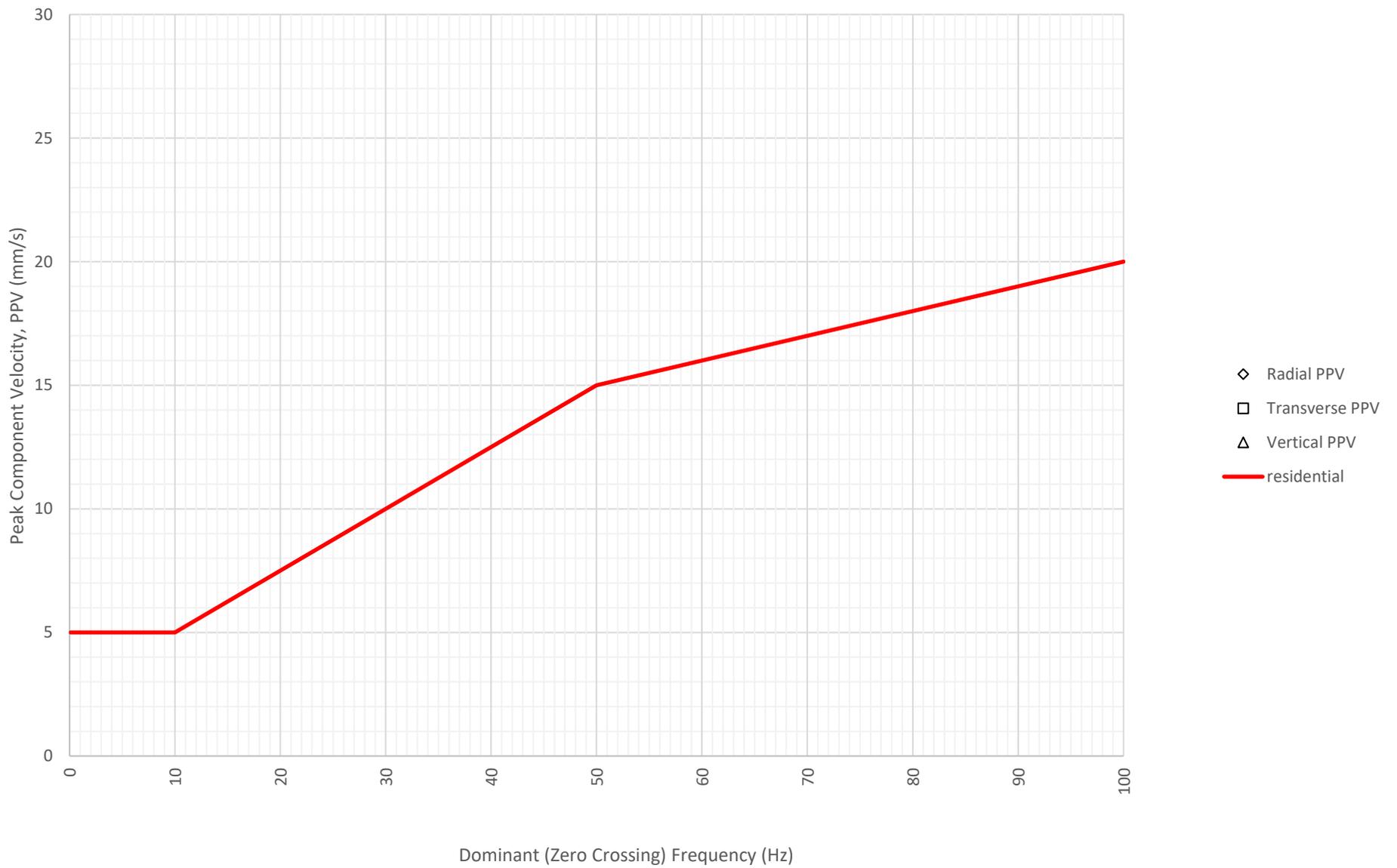


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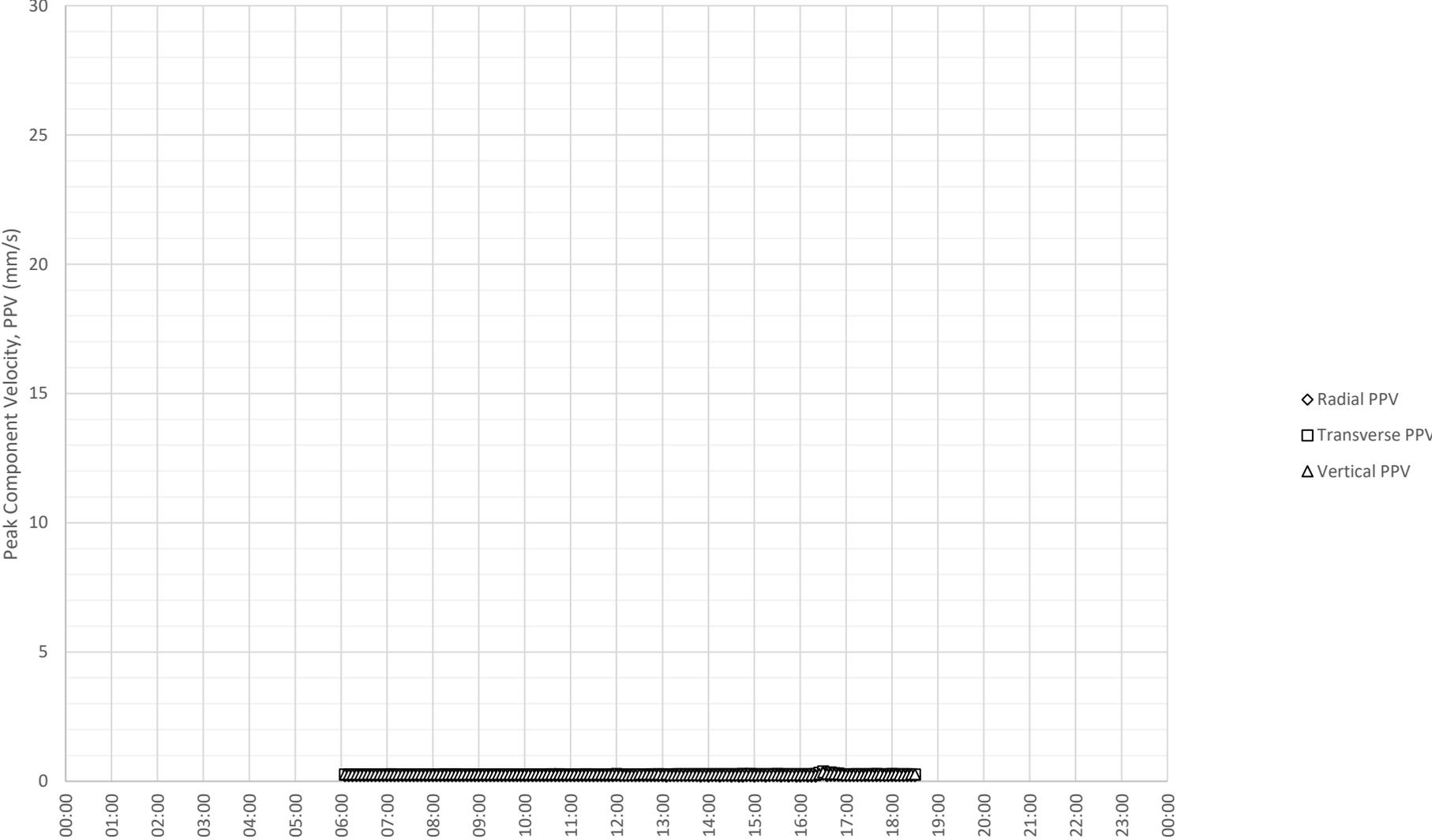


Time of Day

Frequency Content of Vibration Levels at M7715 Residential on 4-12-2022

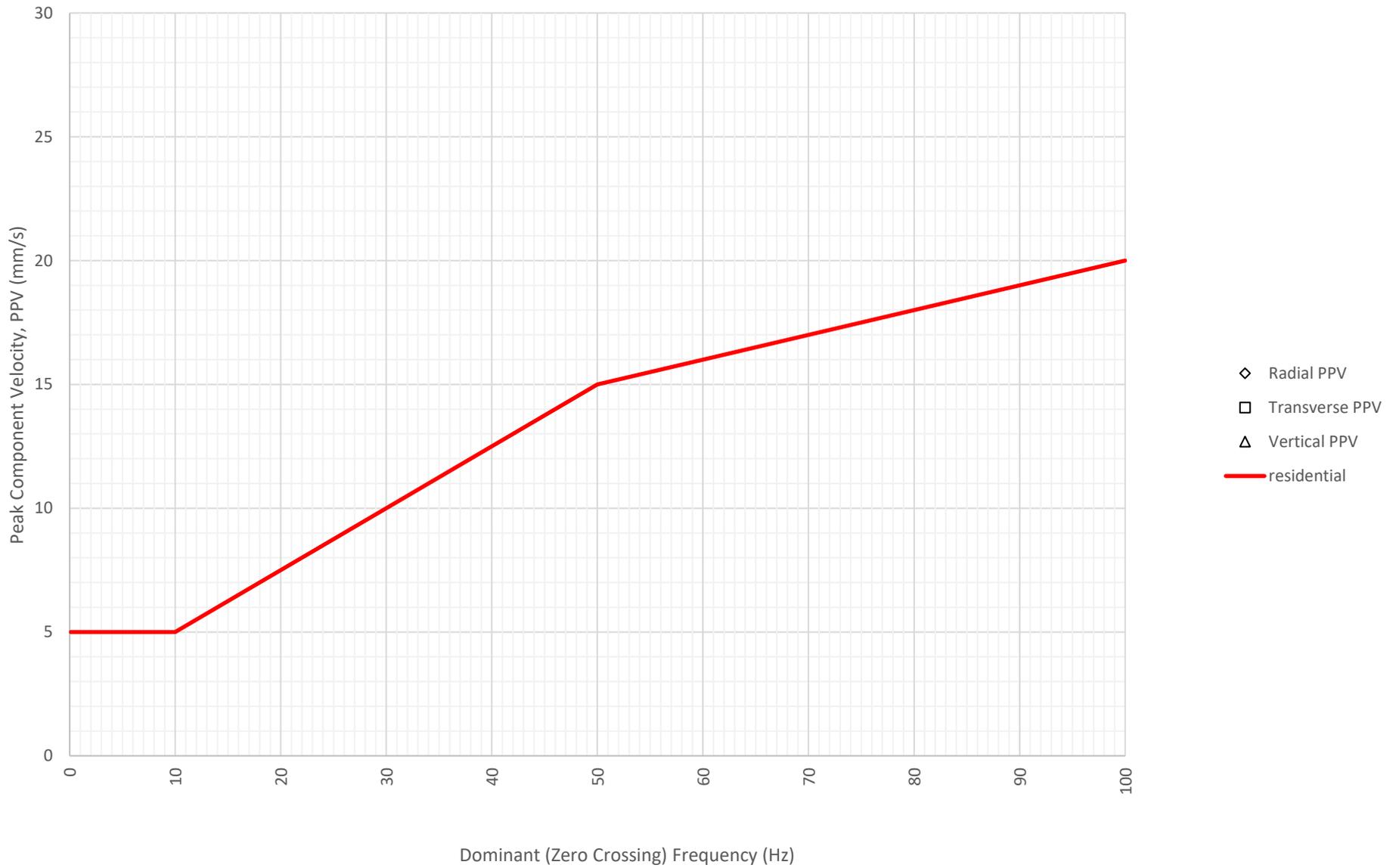


Daily Monitored Vibration Levels at M7715 Residential on 5-12-2022

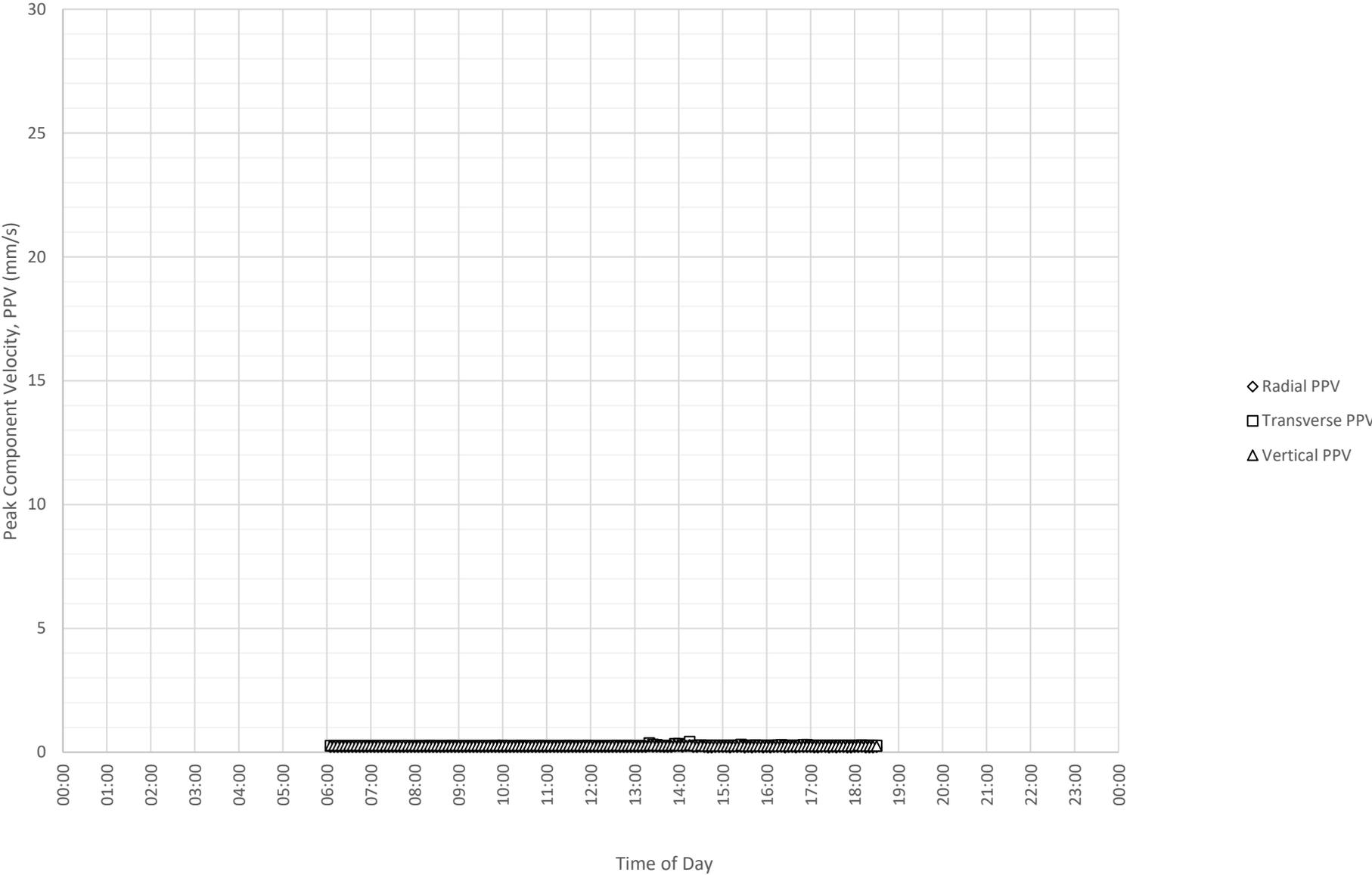


Time of Day

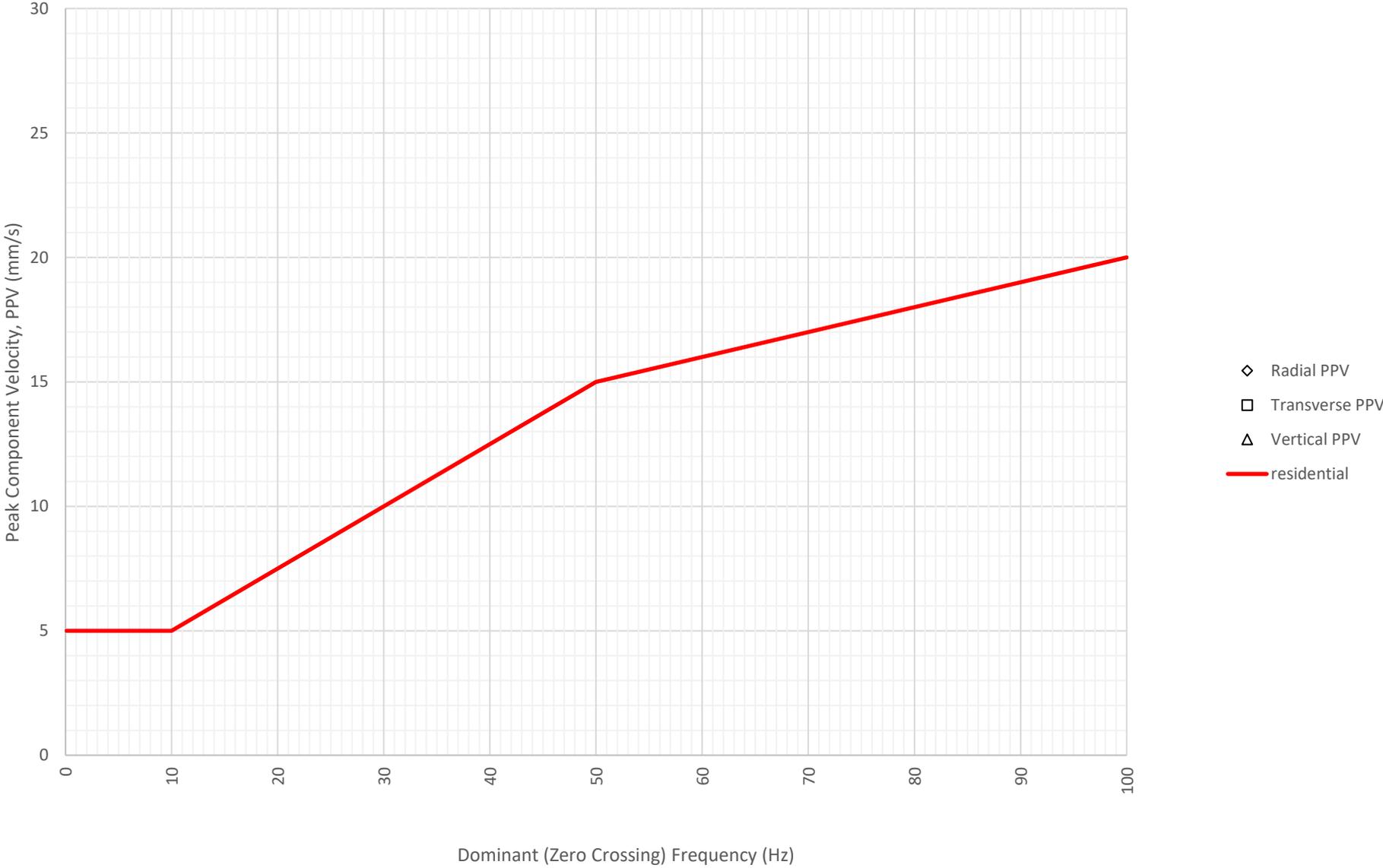
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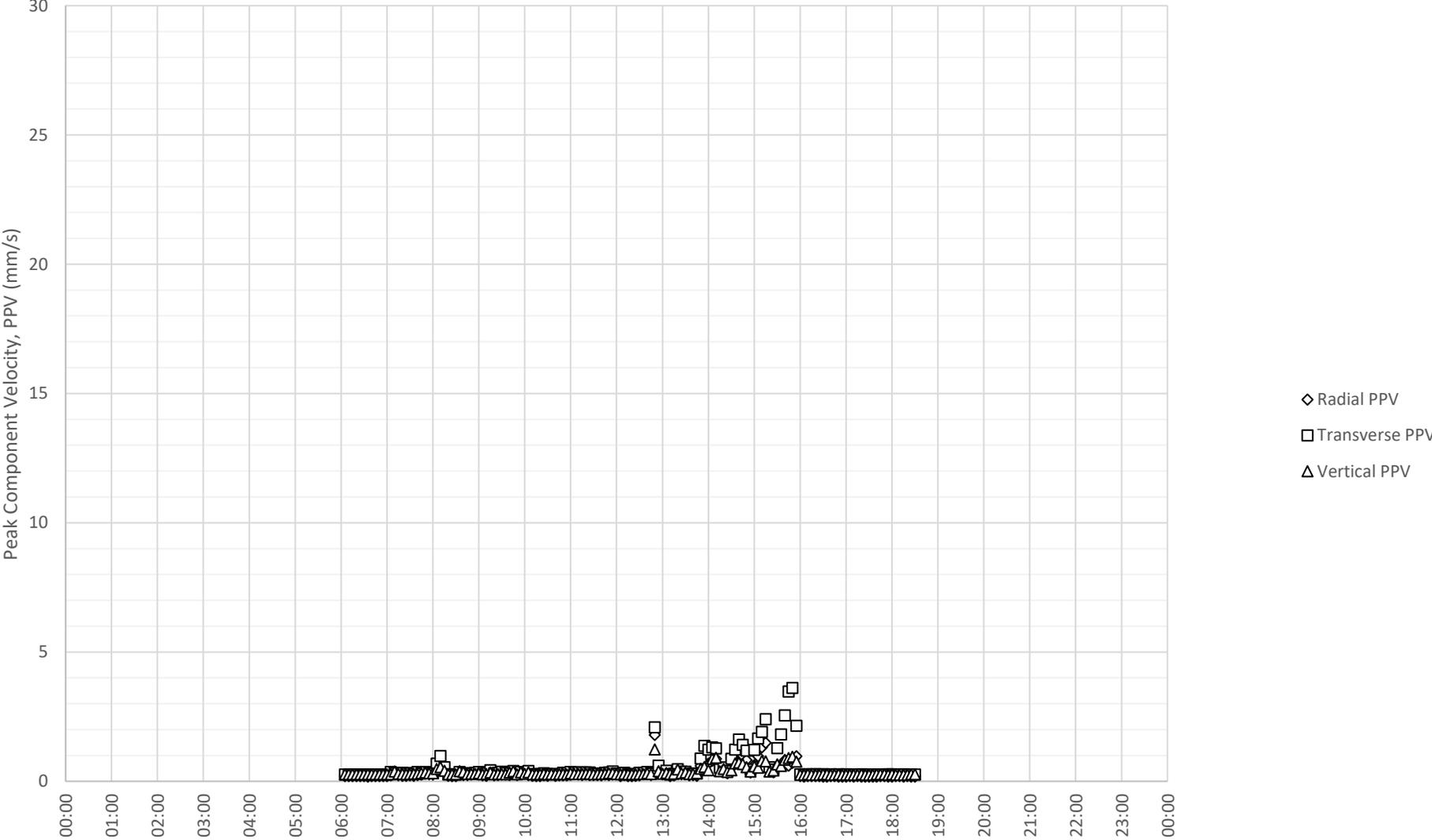
Daily Monitored Vibration Levels at M7715 Residential on 6-12-2022



Frequency Content of Vibration Levels at M7715 Residential on 6-12-2022

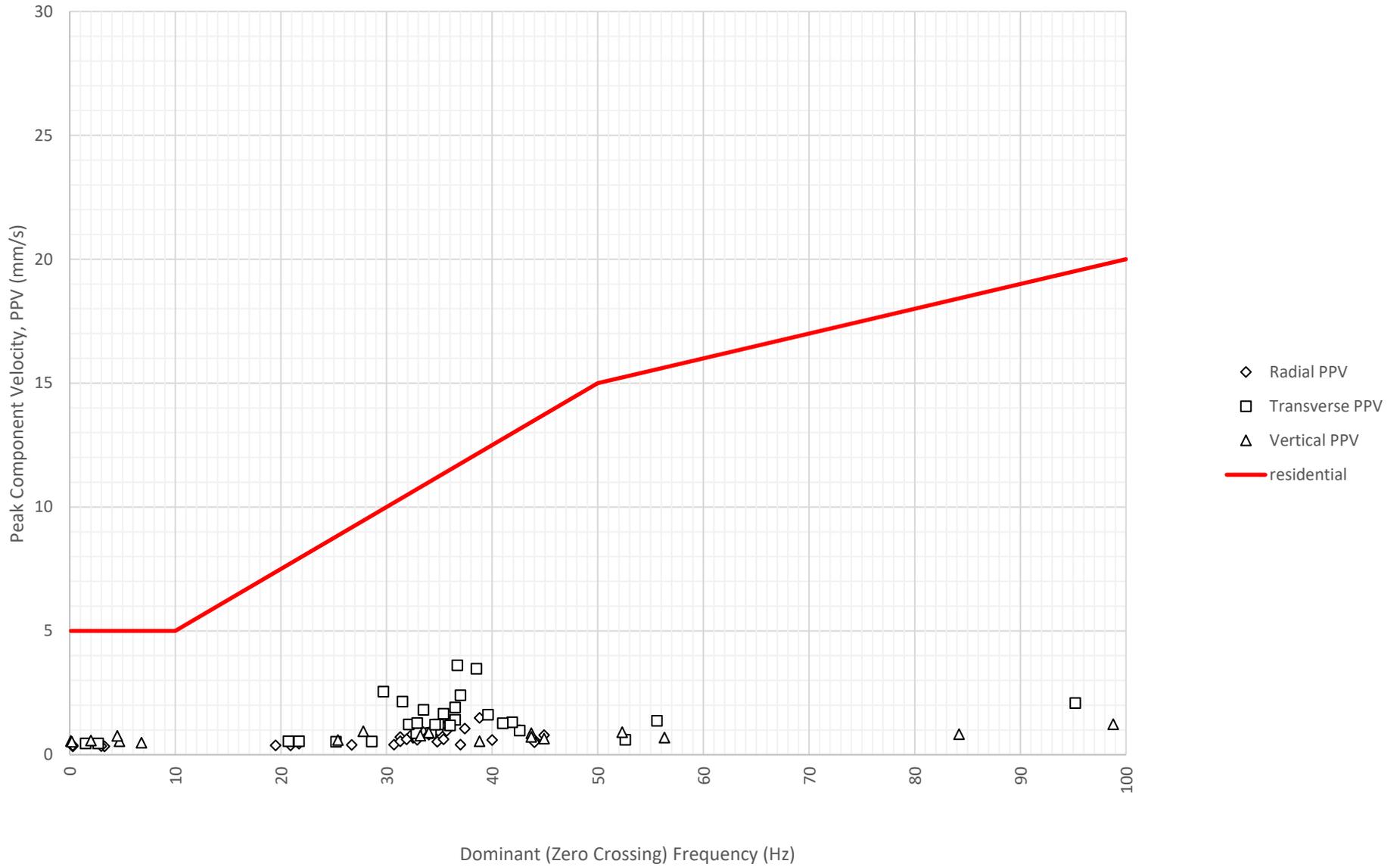


Daily Monitored Vibration Levels at M7715 Residential on 7-12-2022

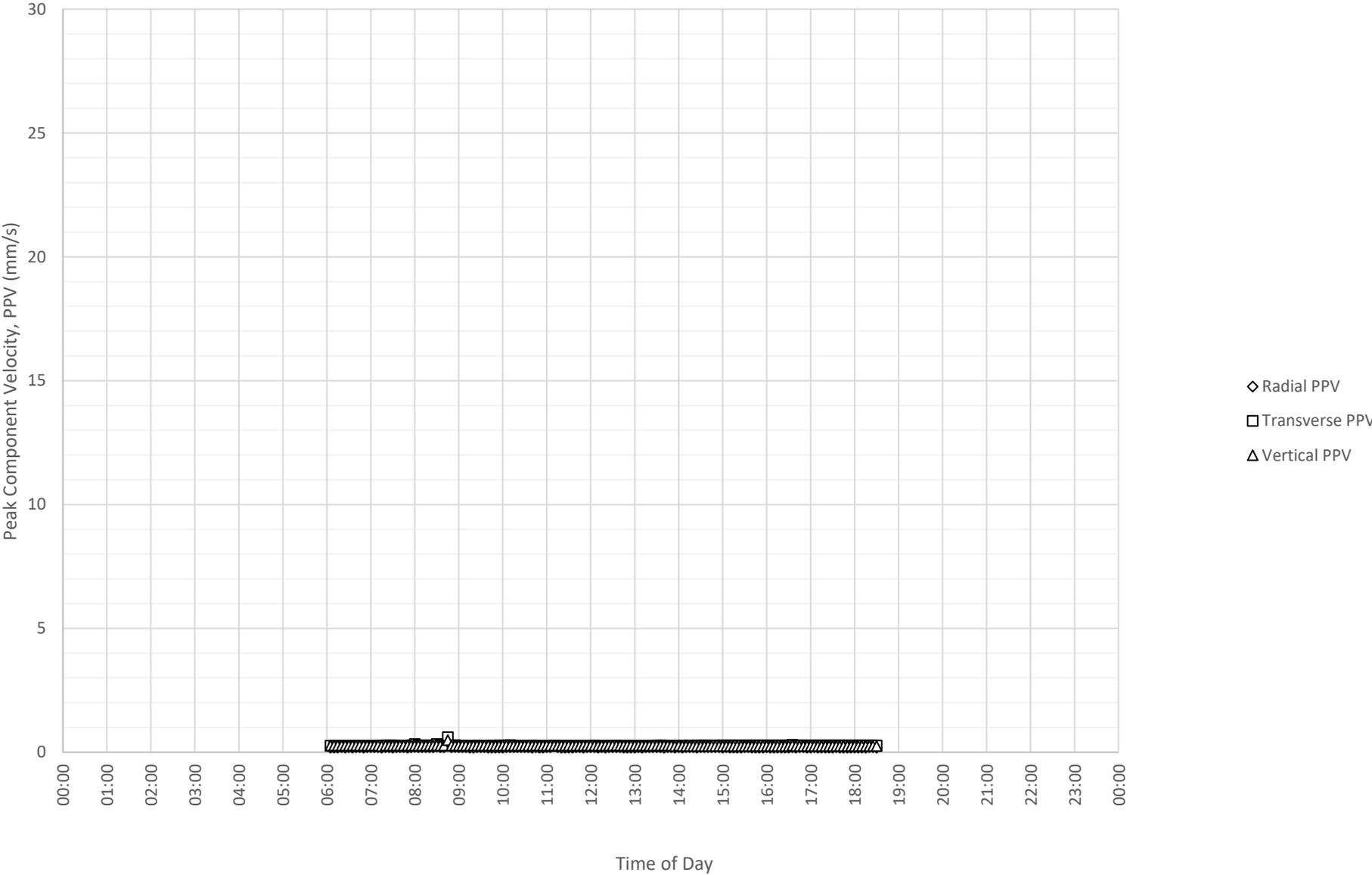


Time of Day

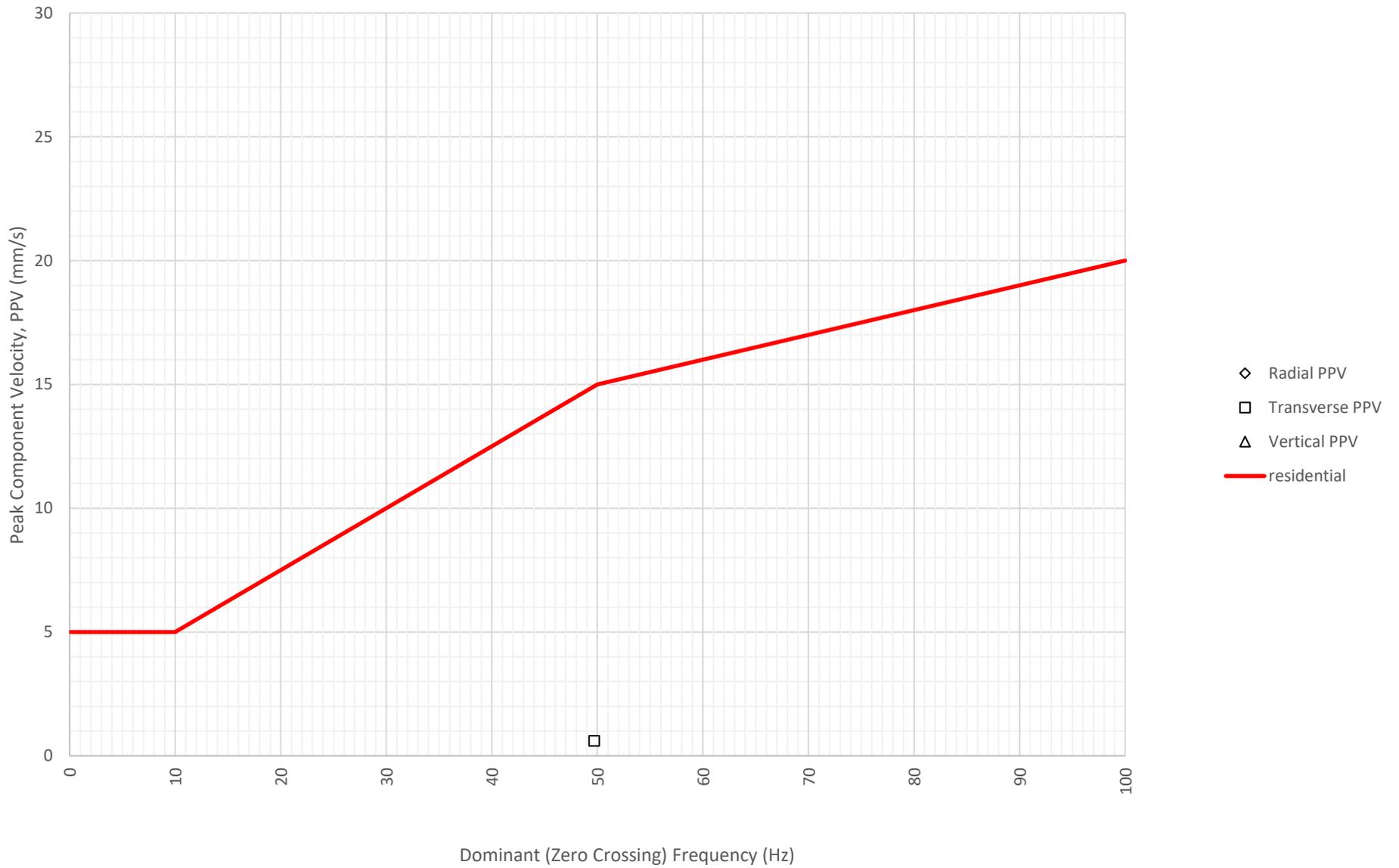
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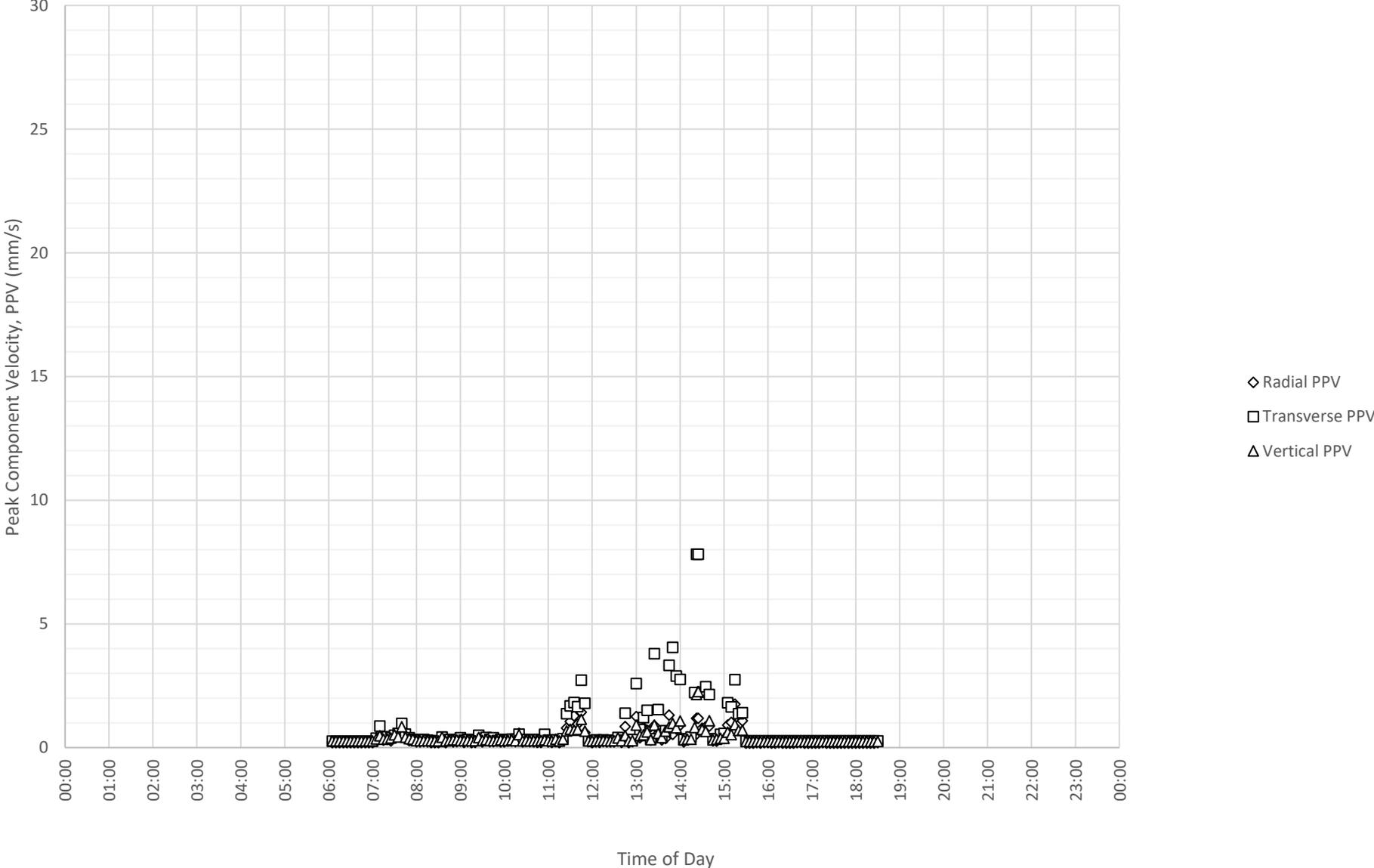
Daily Monitored Vibration Levels at M7715 Residential on 8-12-2022



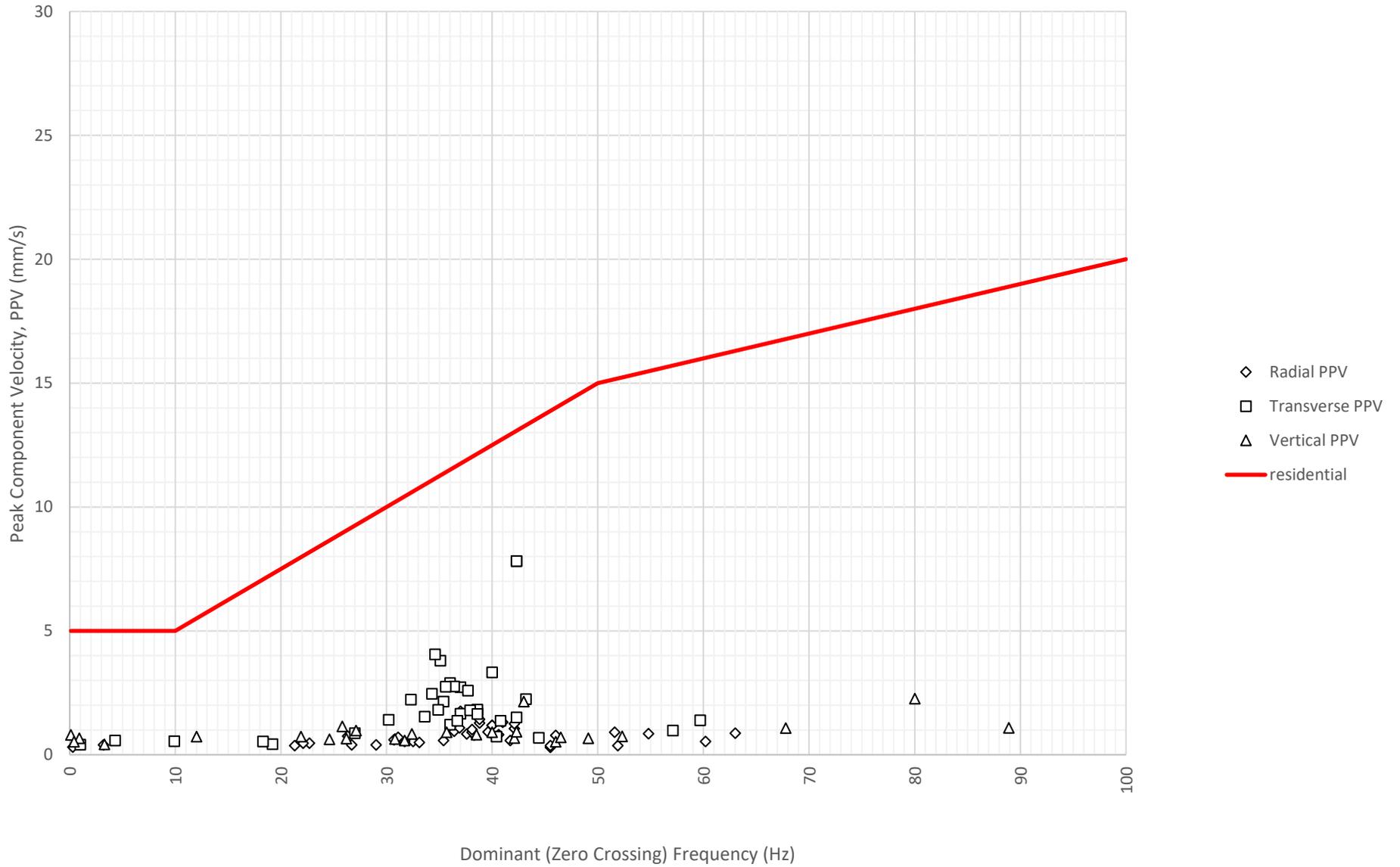
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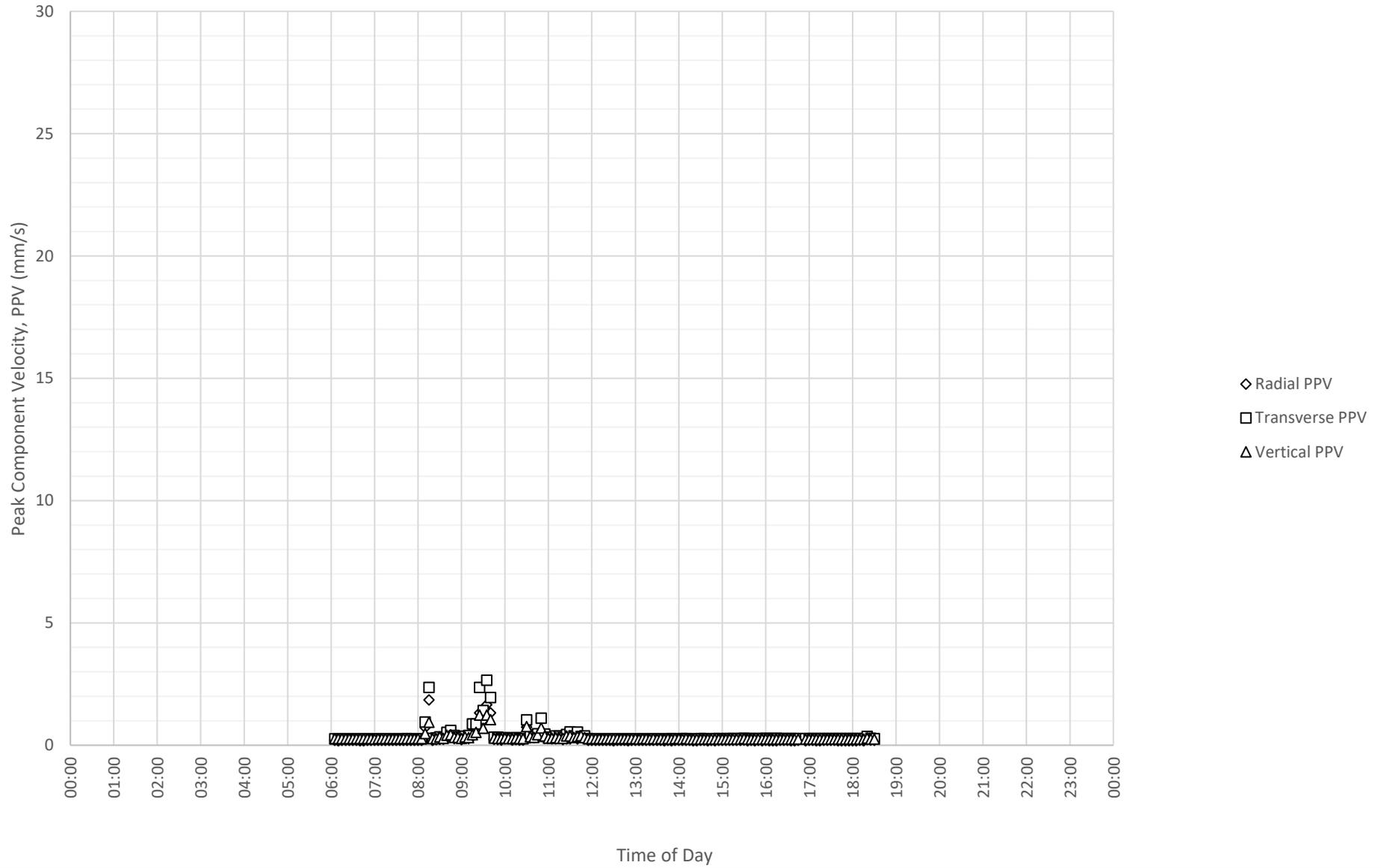
Daily Monitored Vibration Levels at M7715 Residential on 9-12-2022



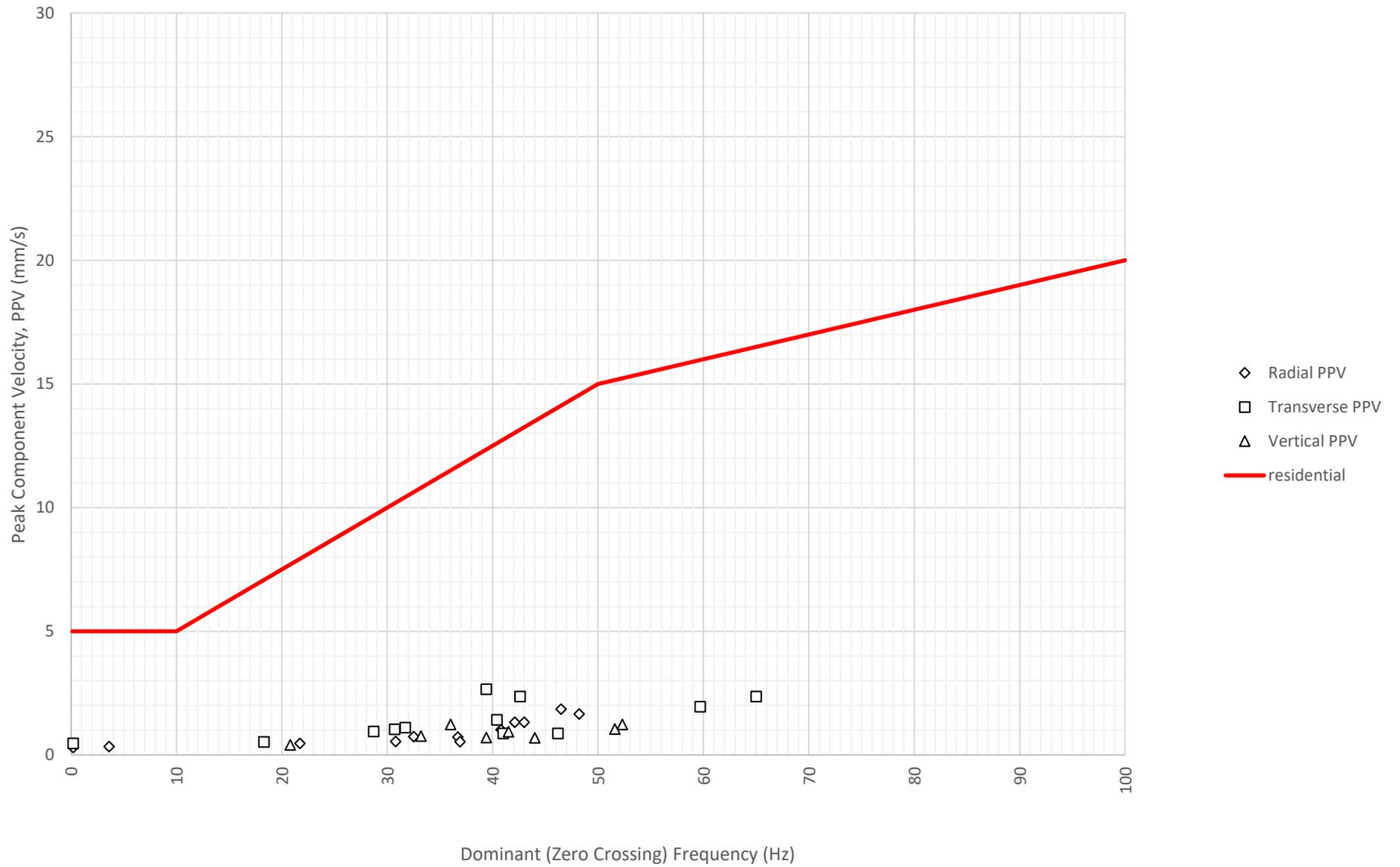
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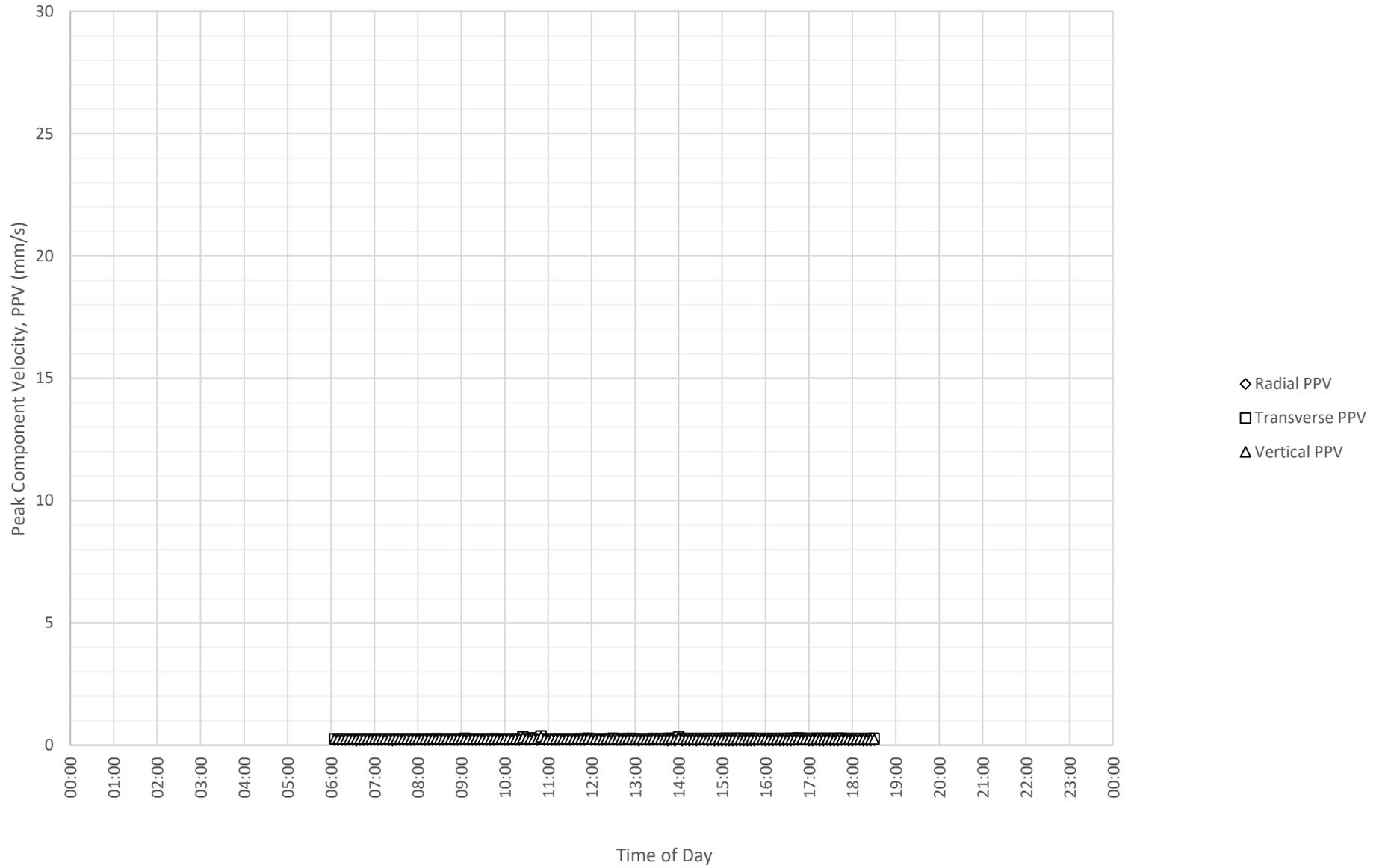
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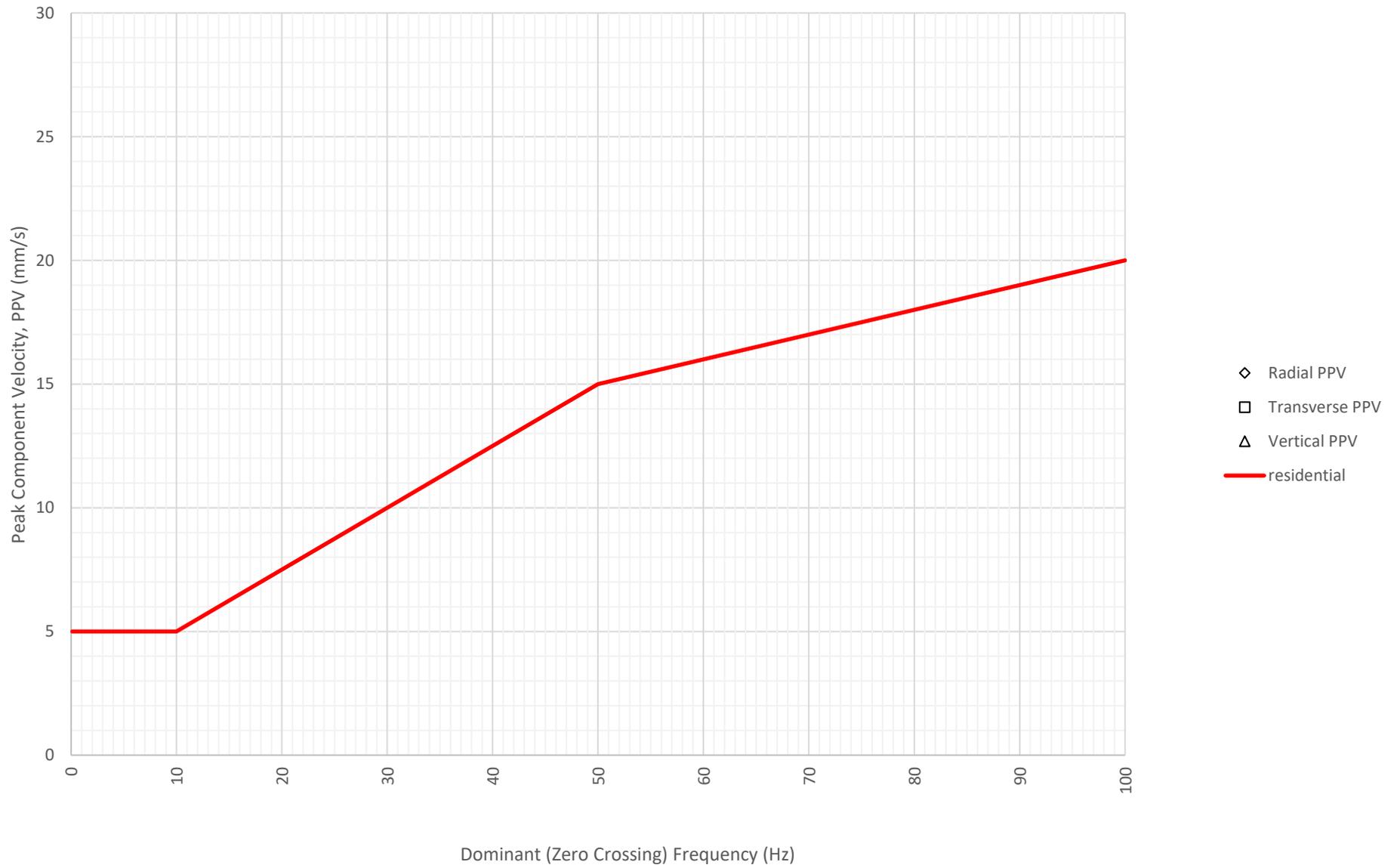
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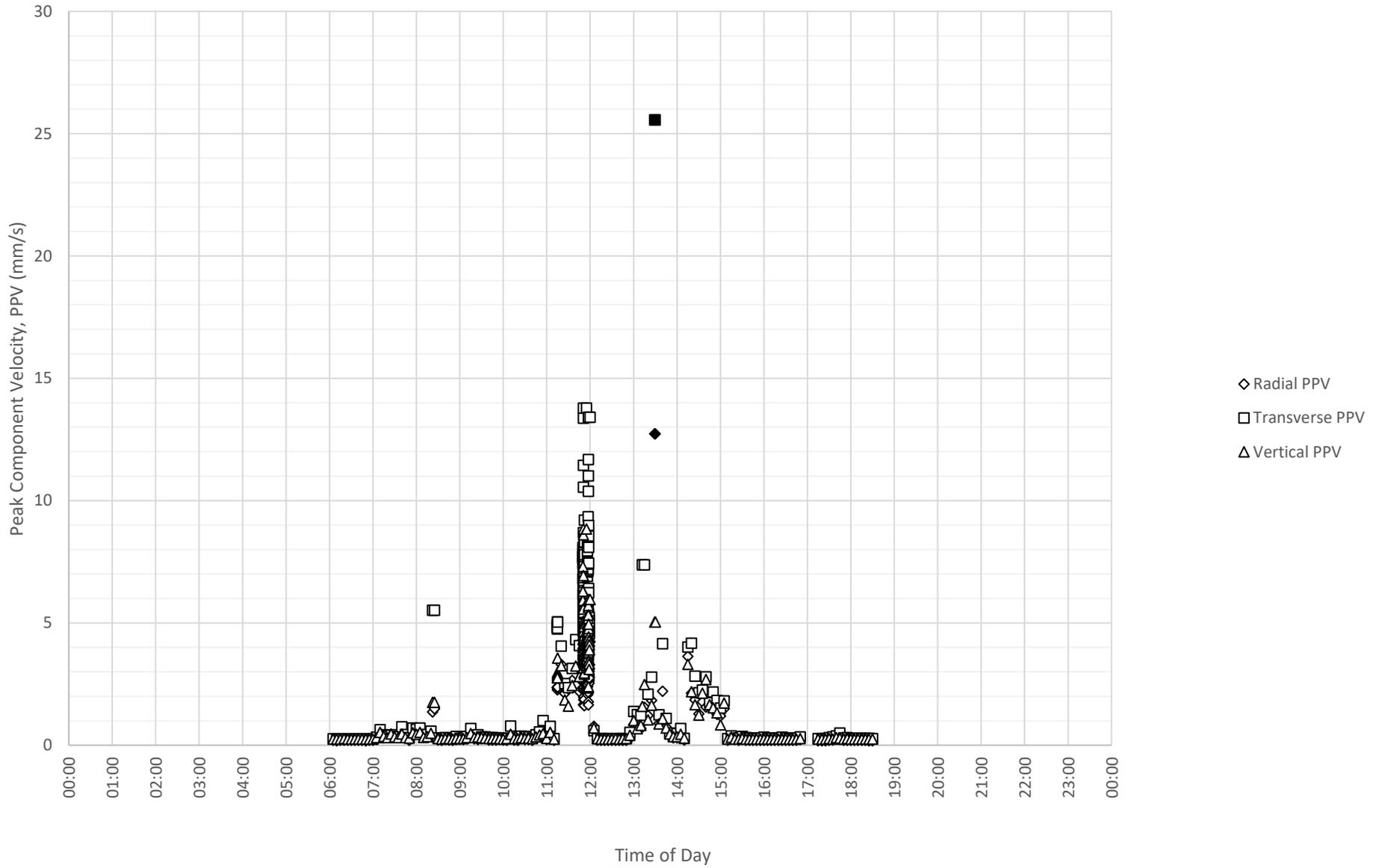
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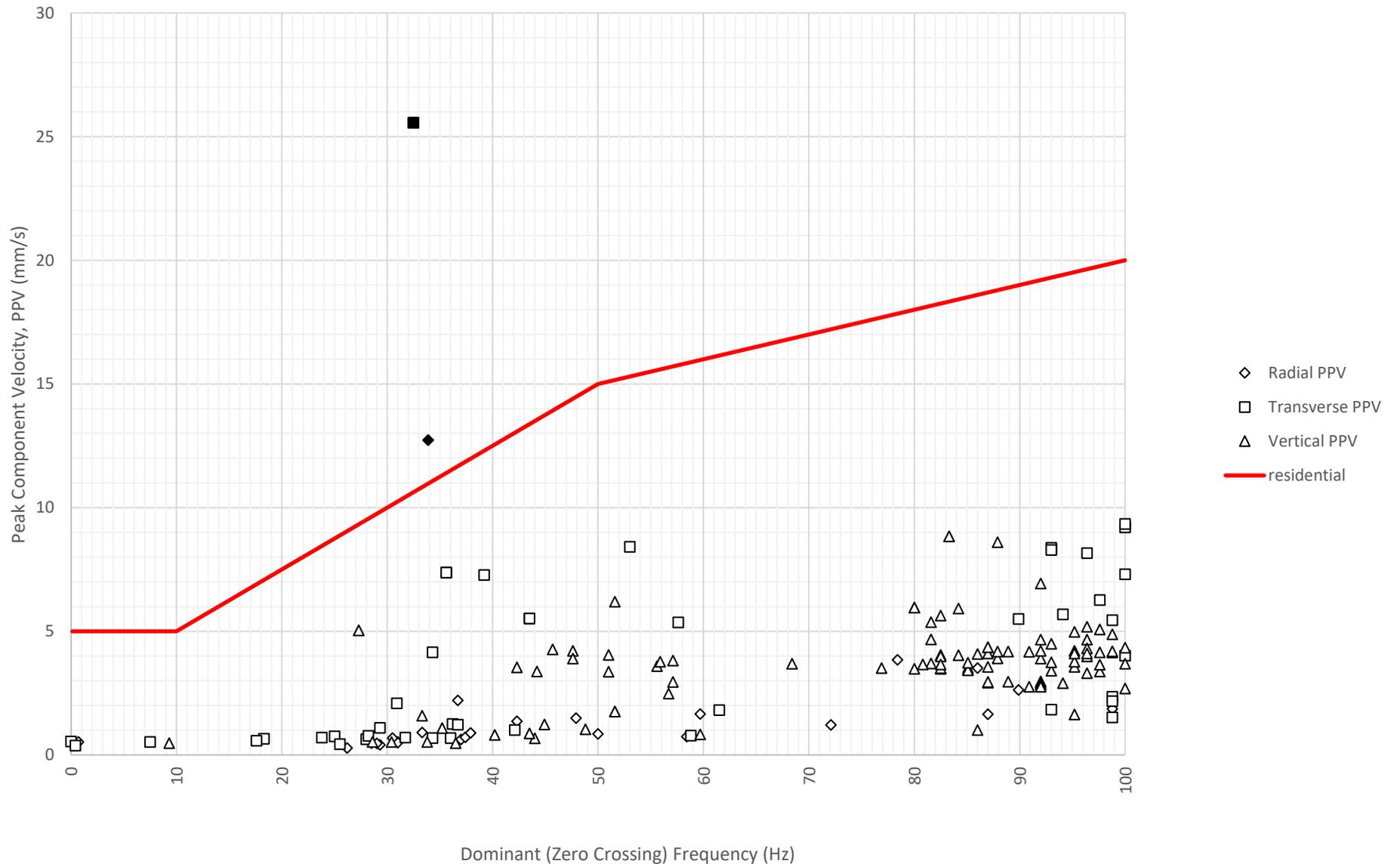
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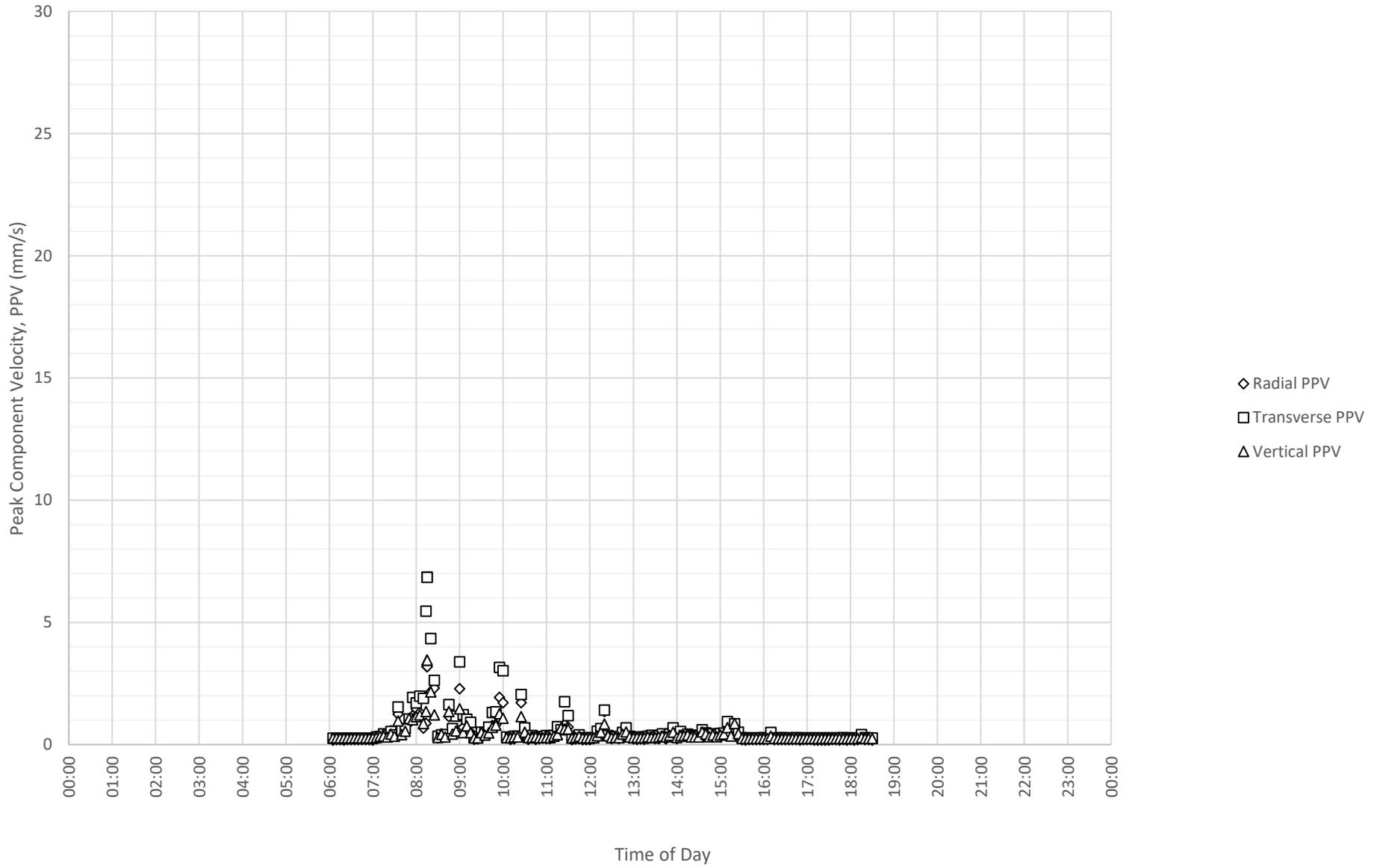
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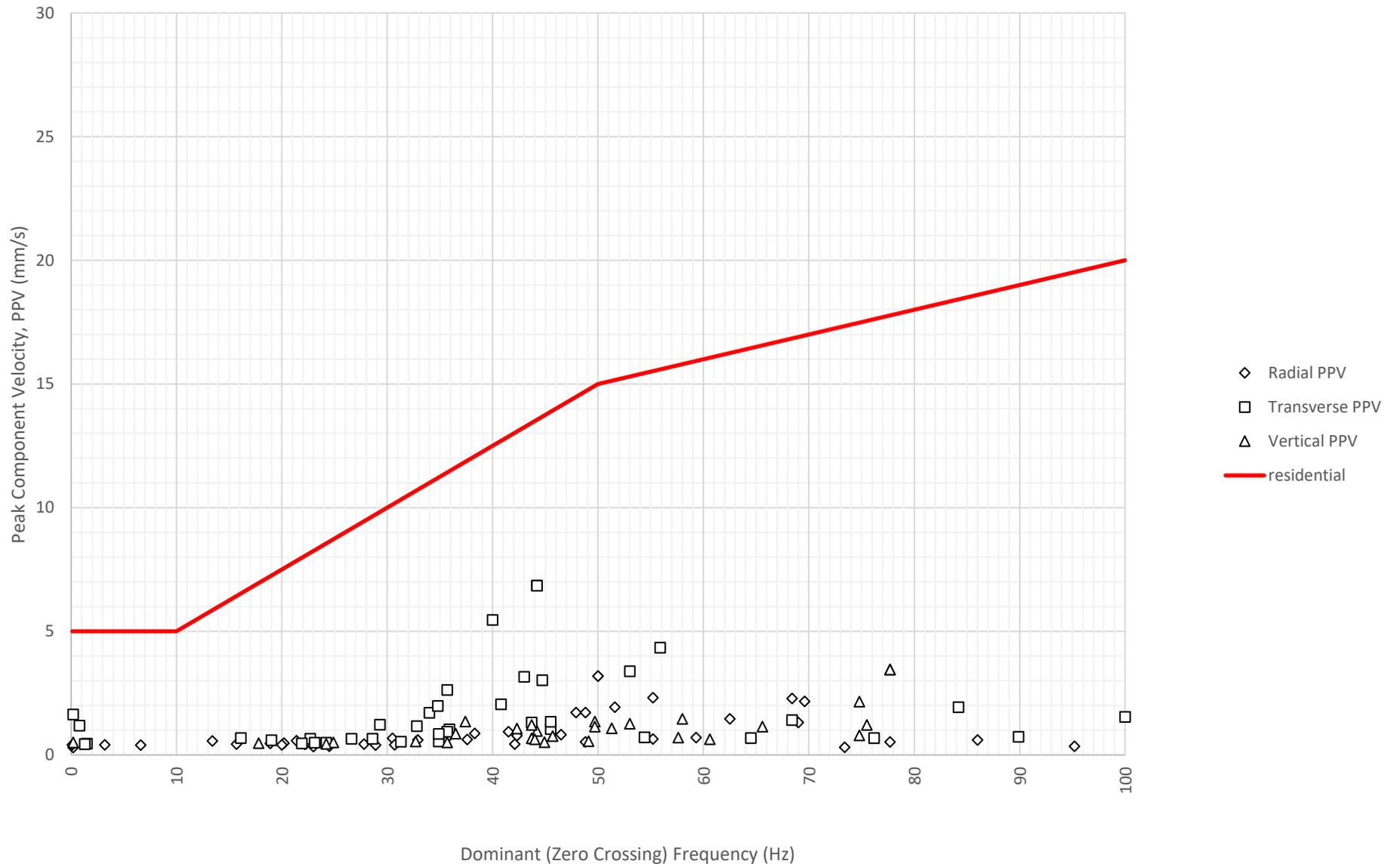
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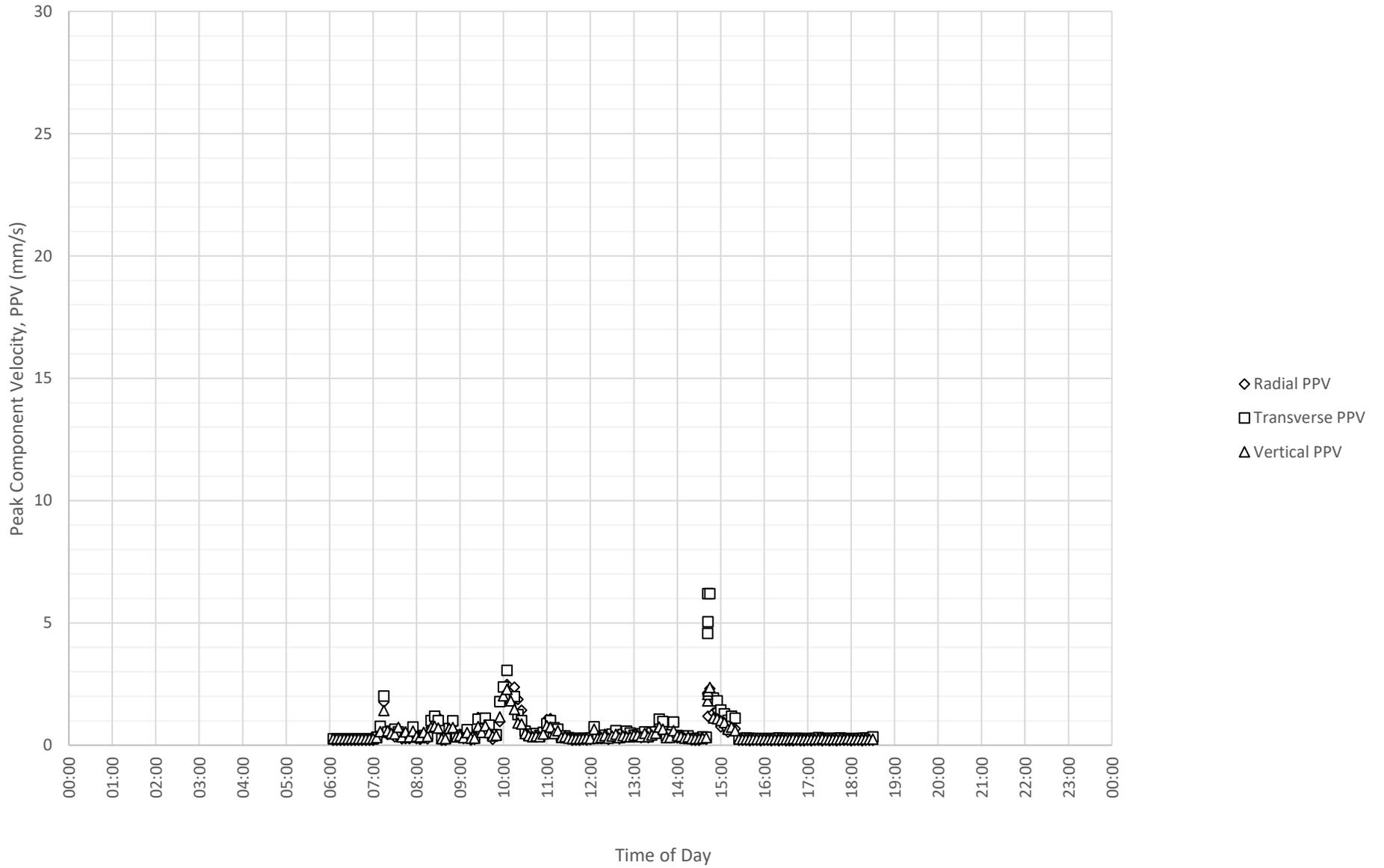
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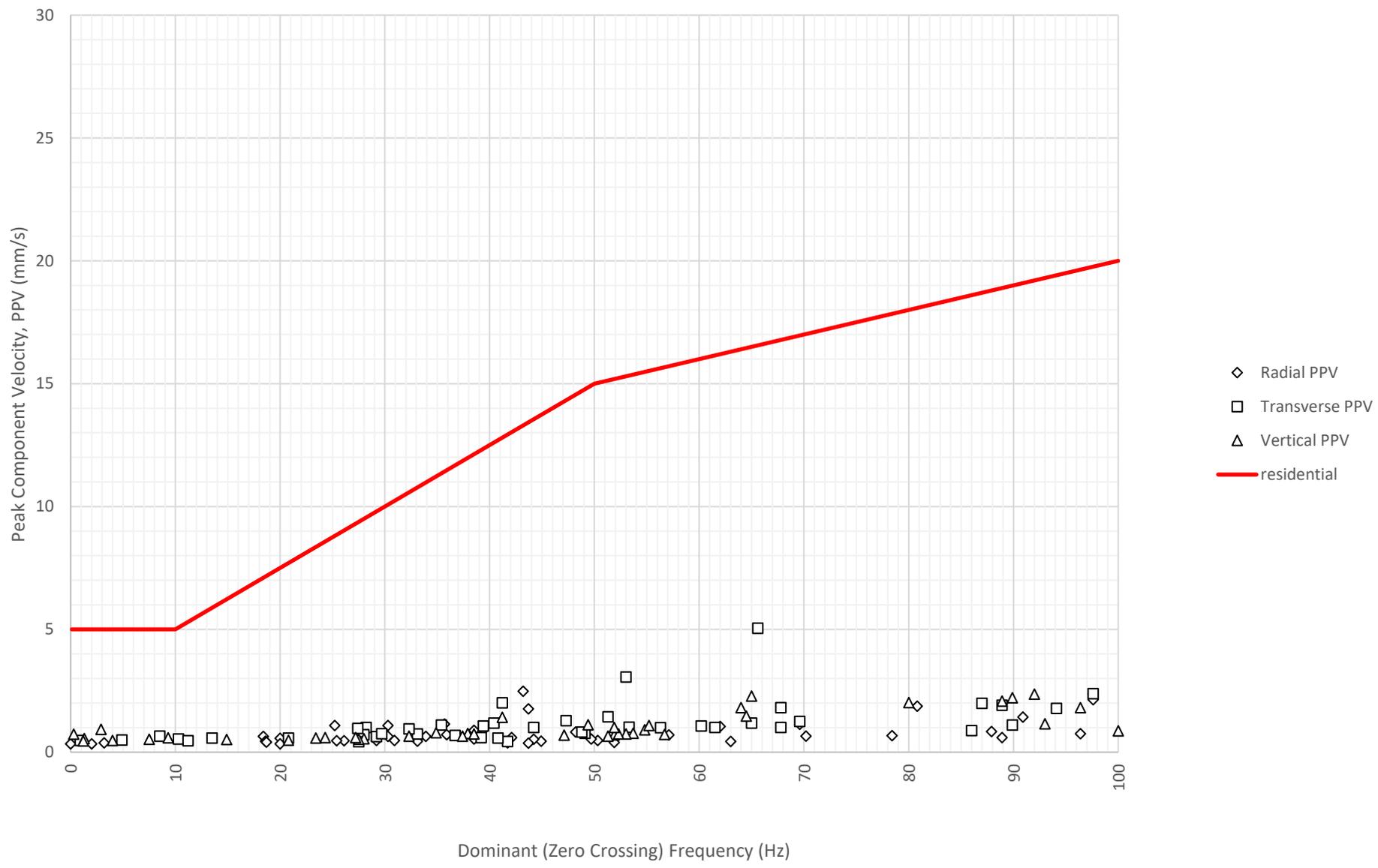
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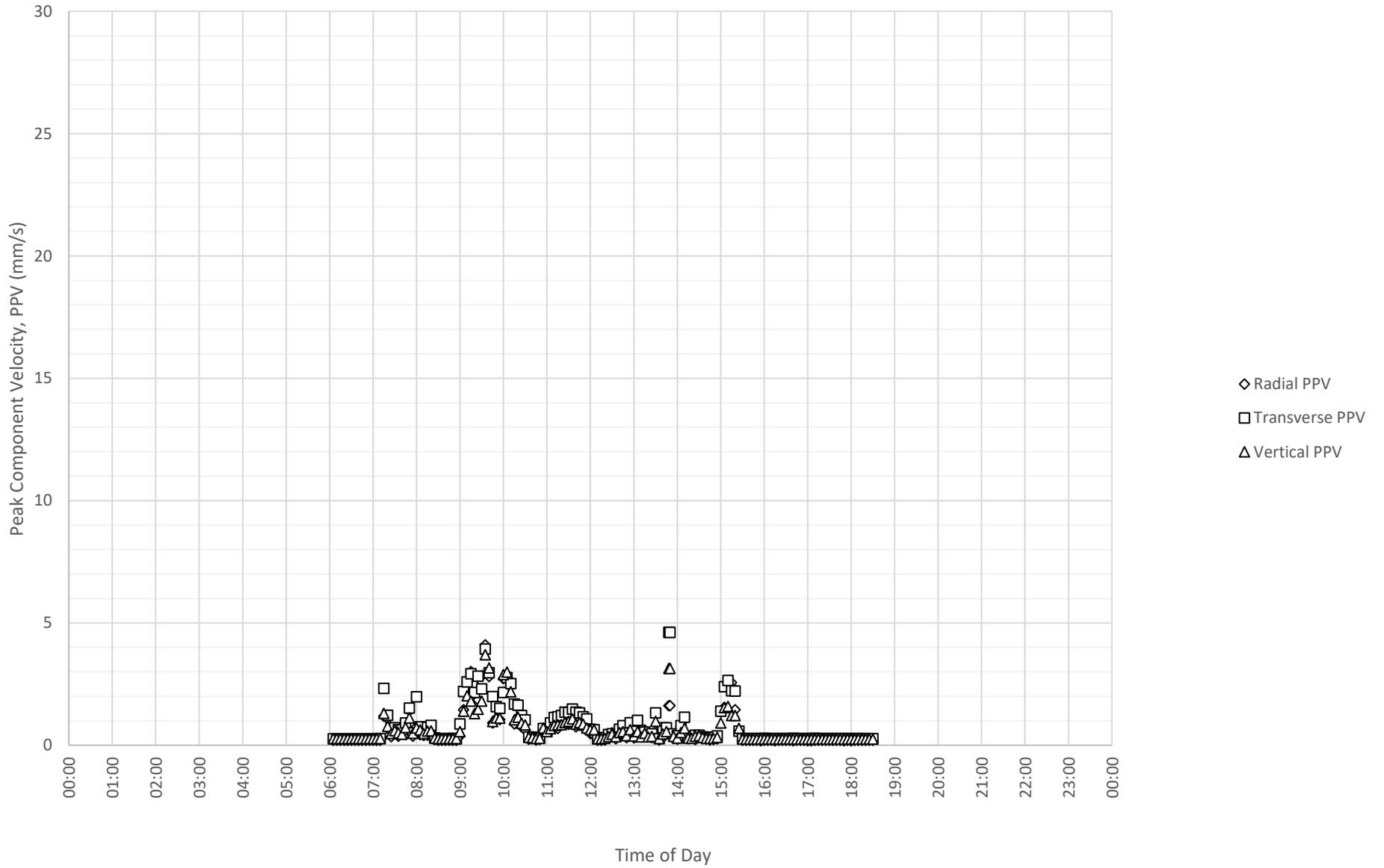
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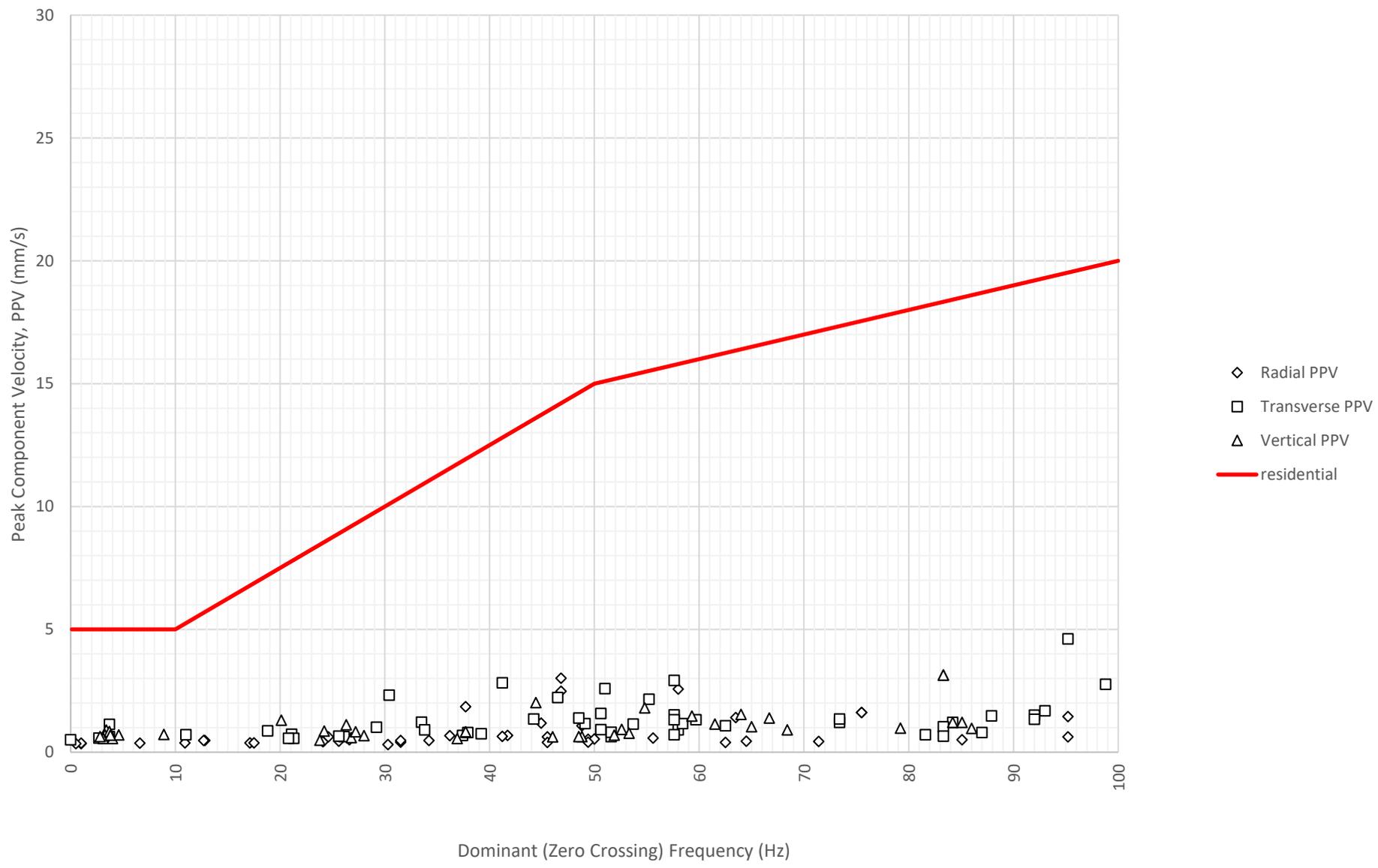
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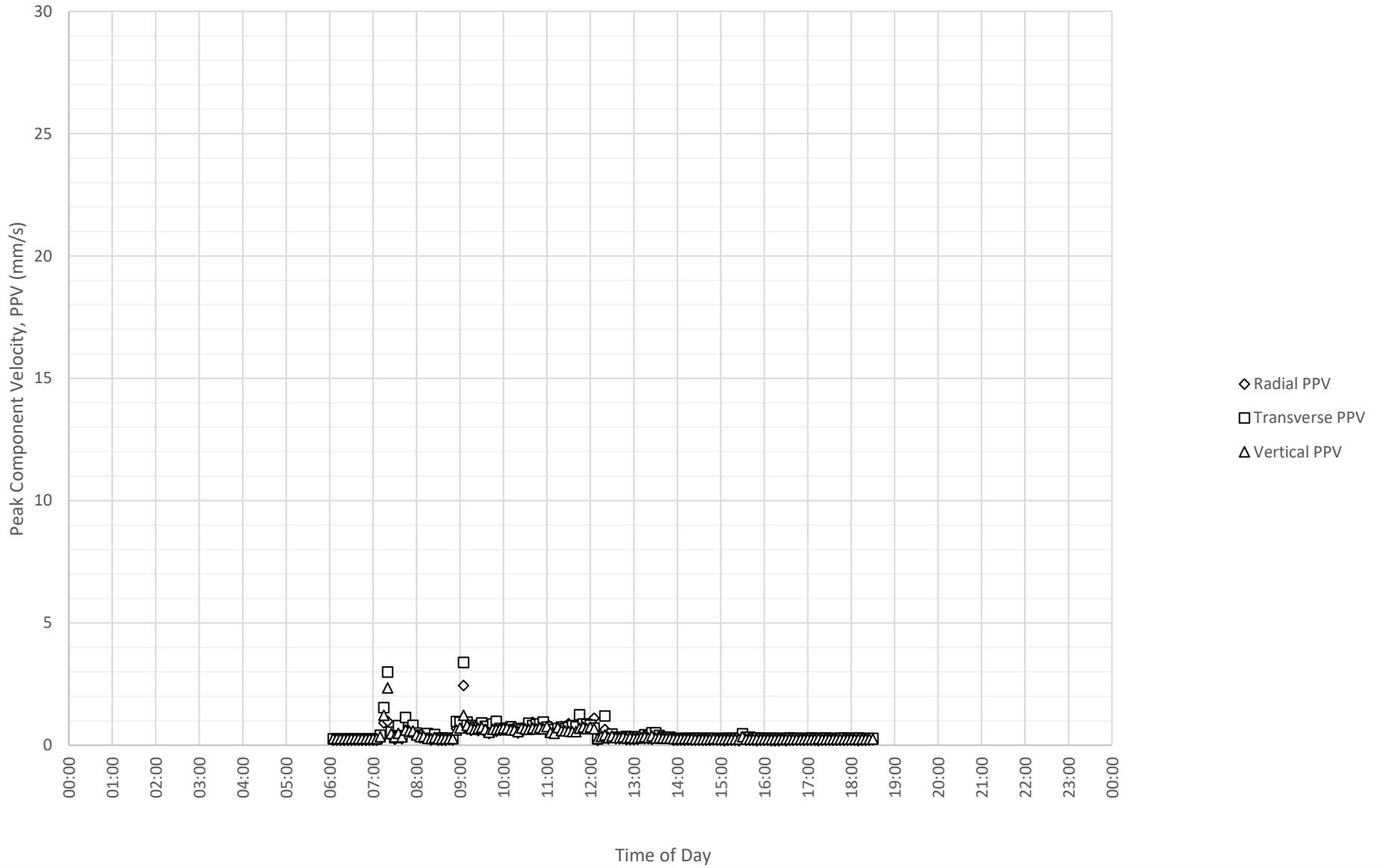
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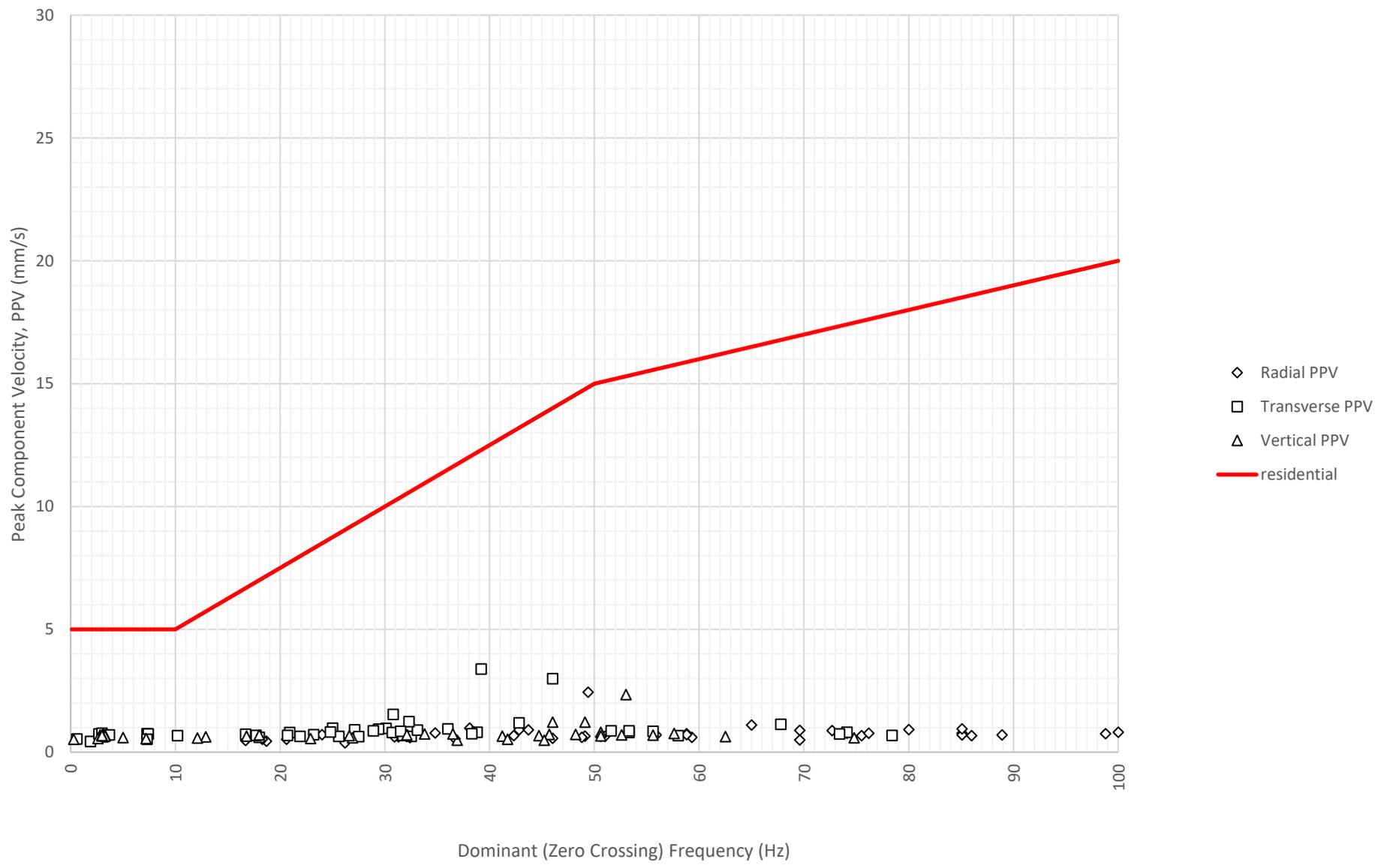
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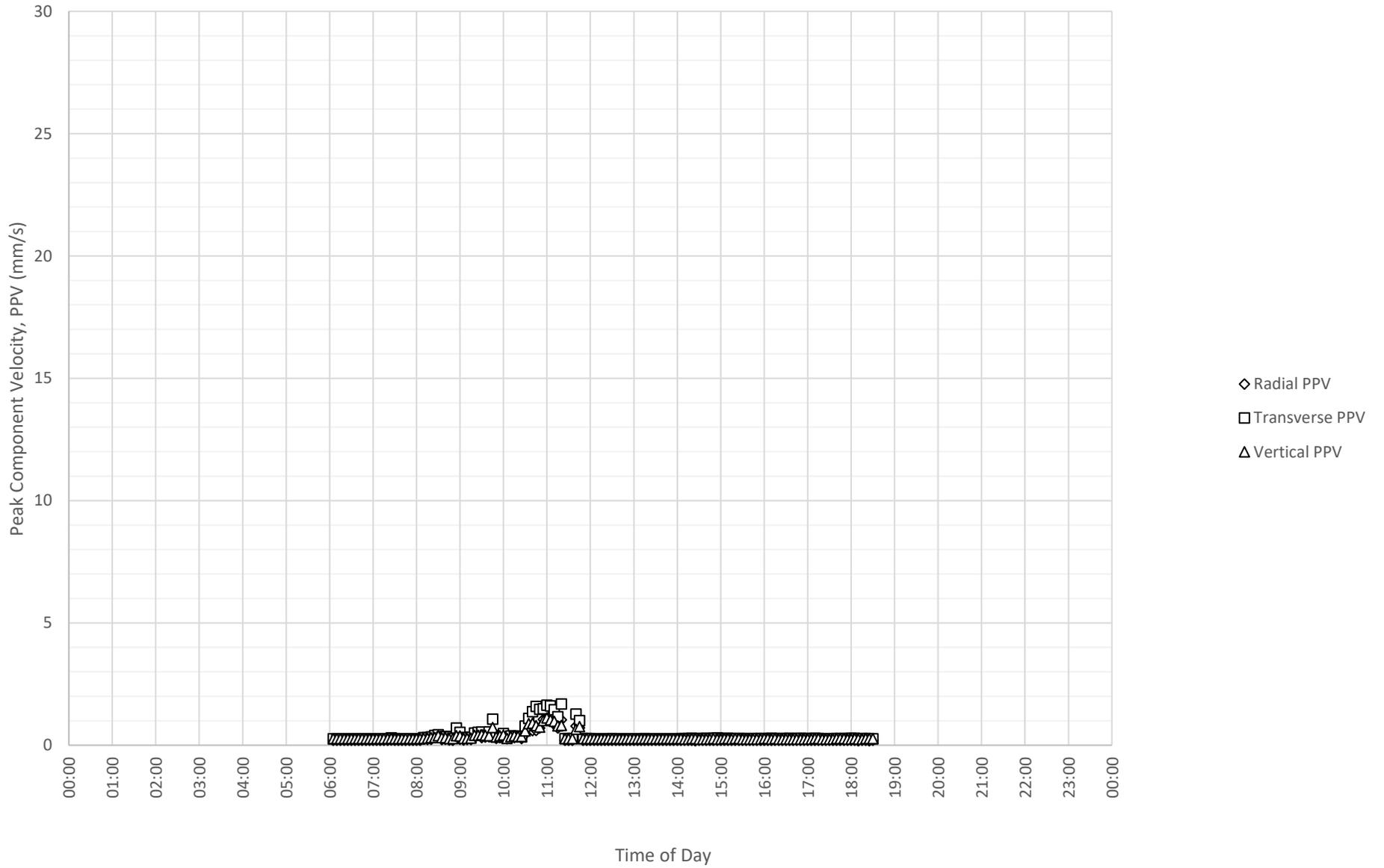
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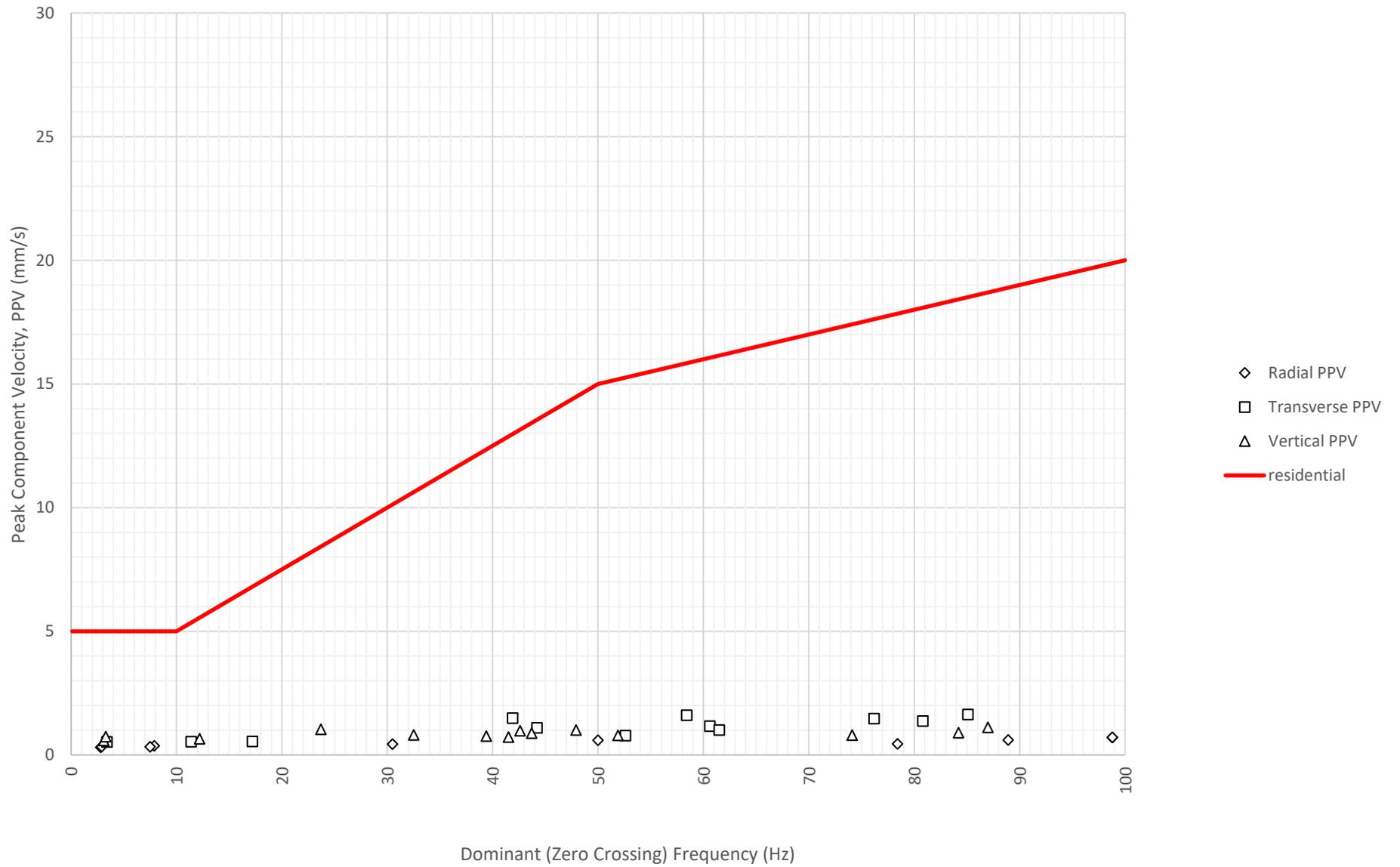
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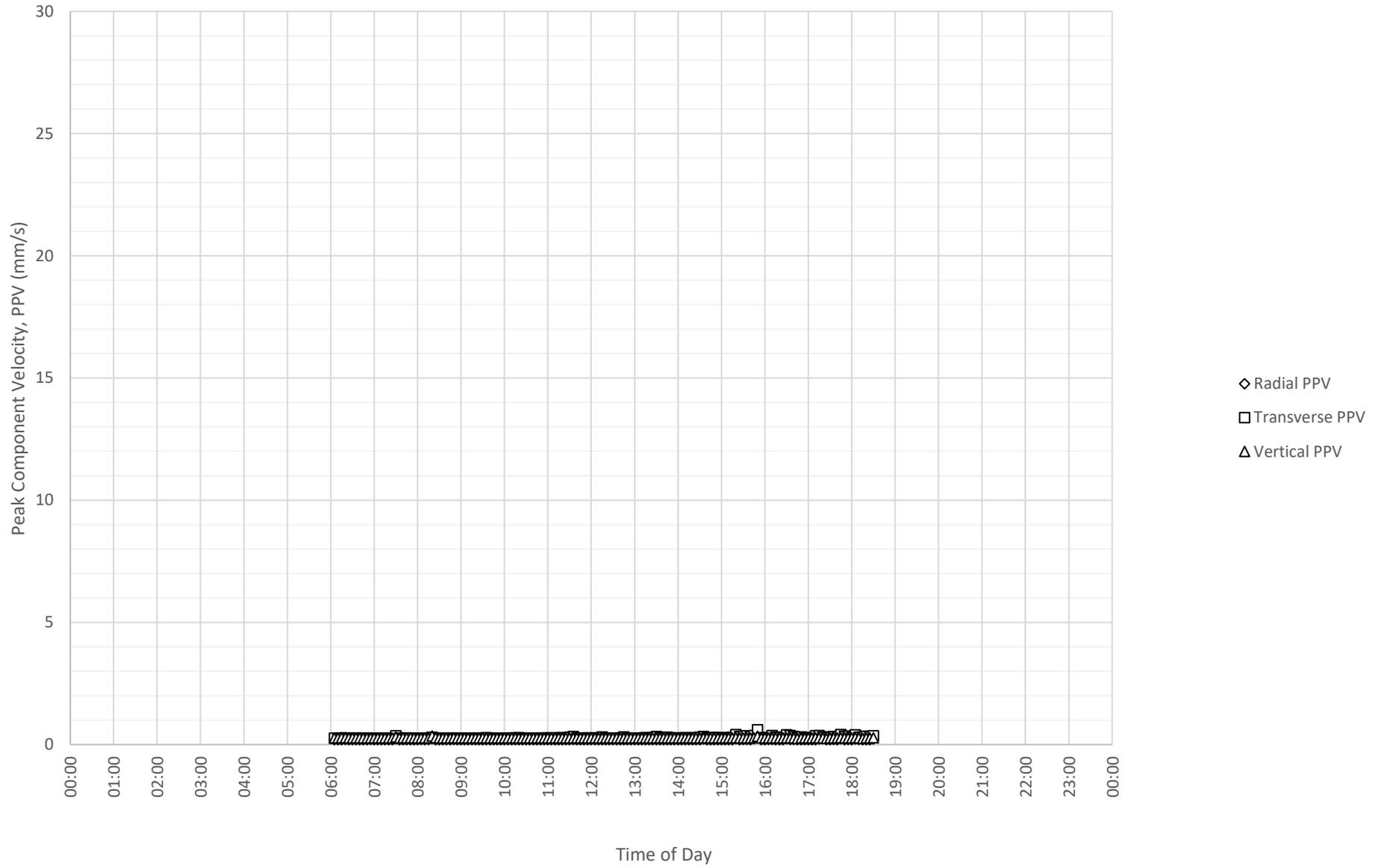
Daily Monitored Vibration Levels at M7715 Residential on 17-12-2022



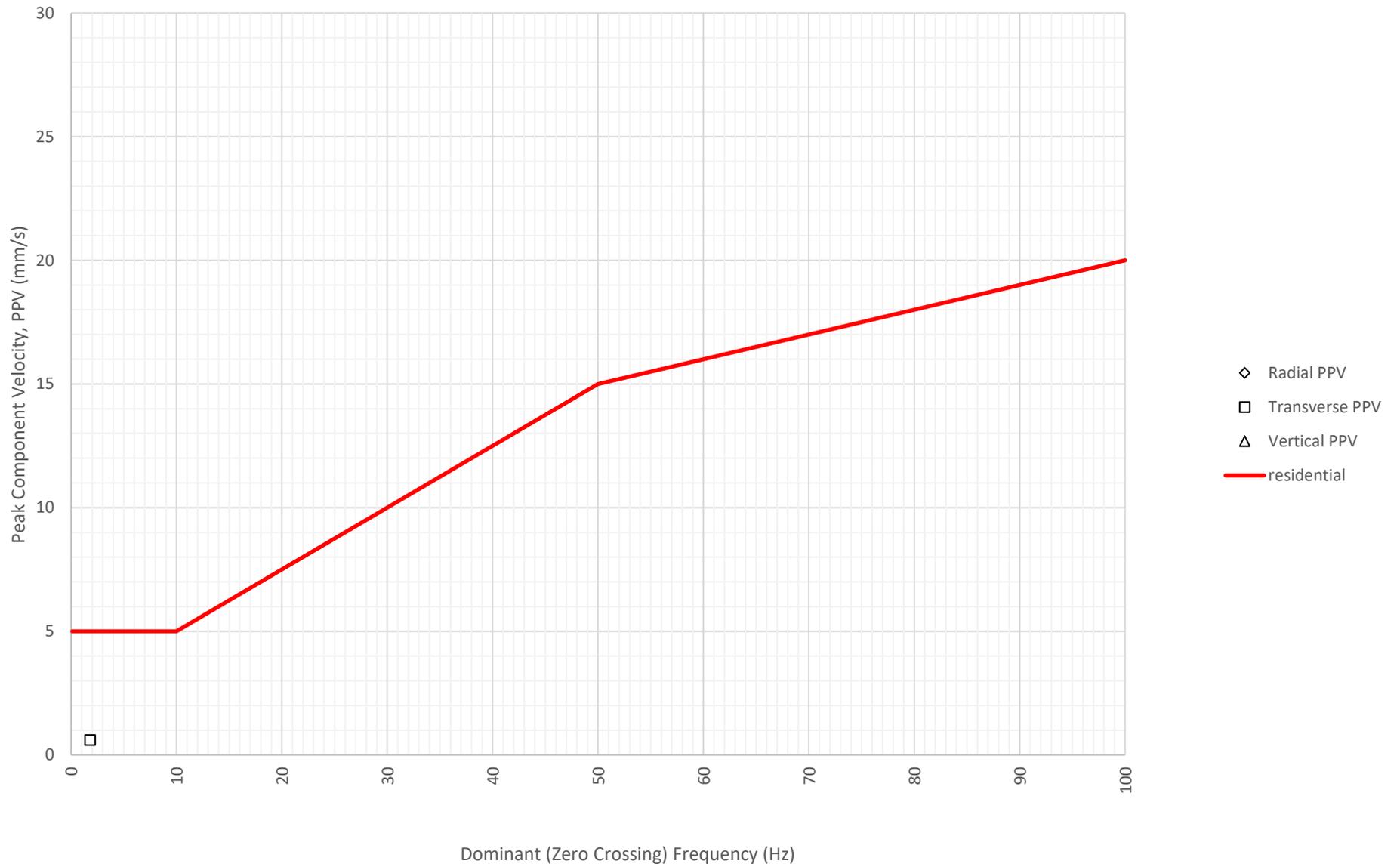
Frequency Content of Vibration Levels at M7715 Residential on 17-12-2022



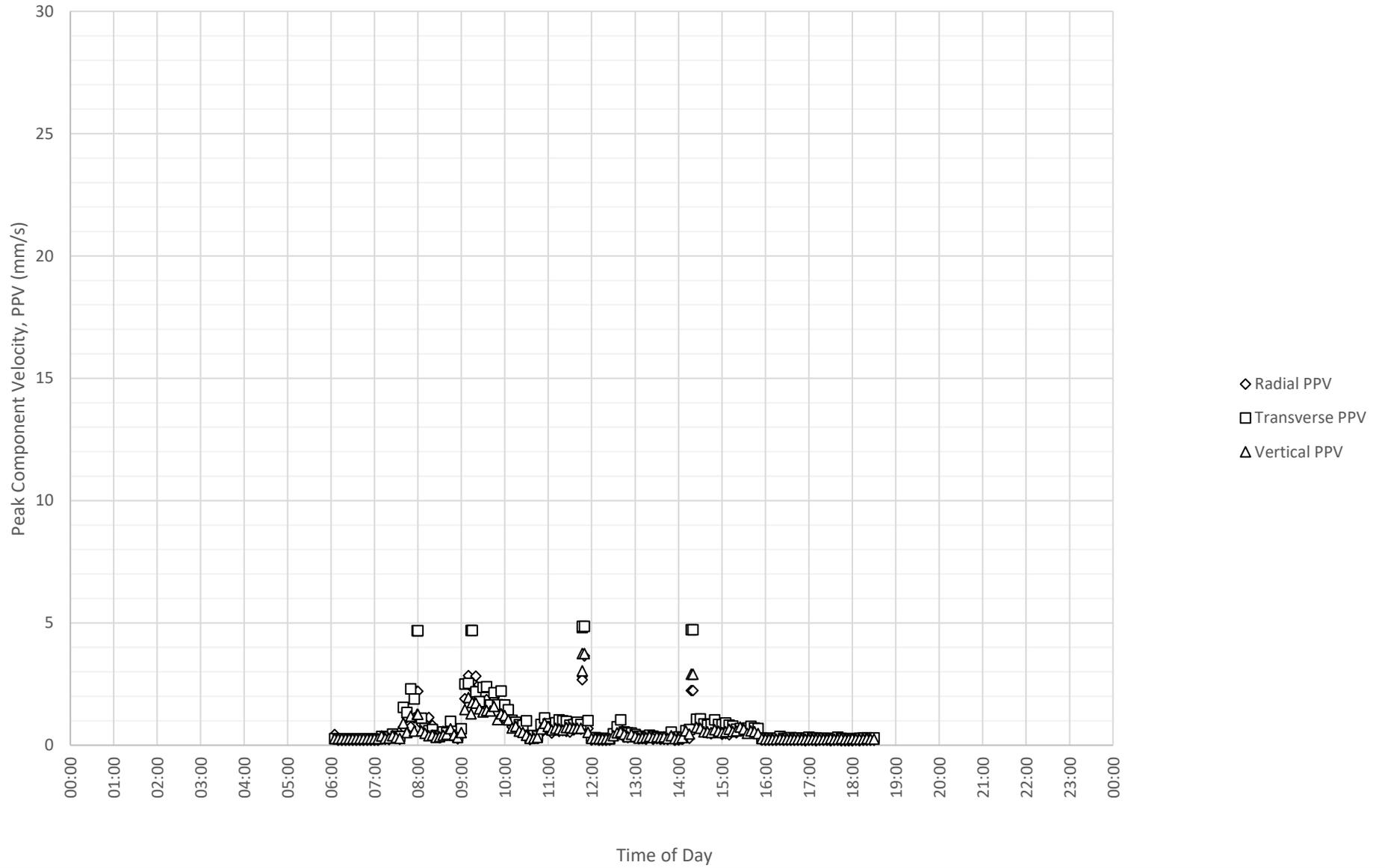
Daily Monitored Vibration Levels at M7715 Residential on 18-12-2022



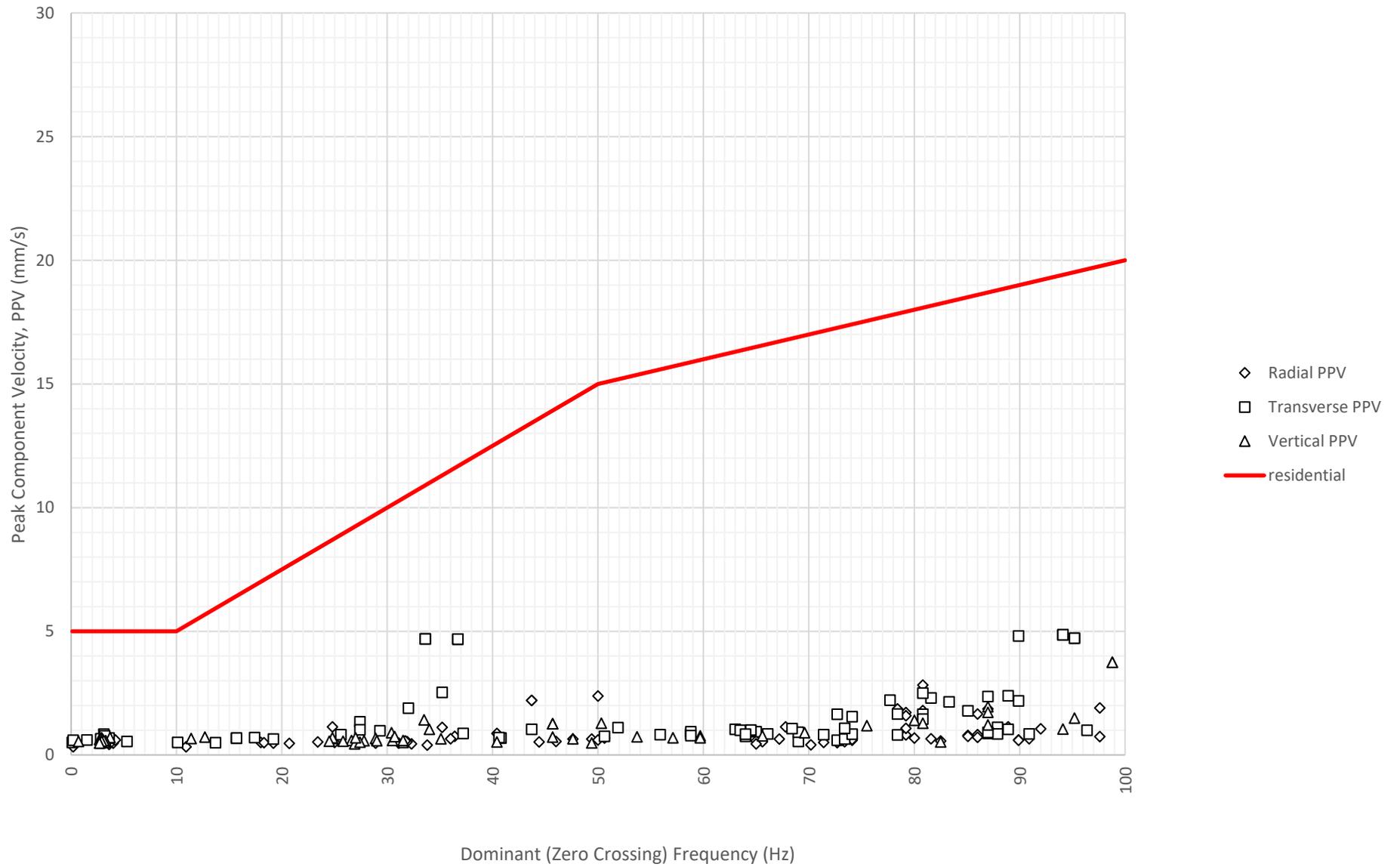
Frequency Content of Vibration Levels at M7715 Residential on 18-12-2022



Daily Monitored Vibration Levels at M7715 Residential on 19-12-2022



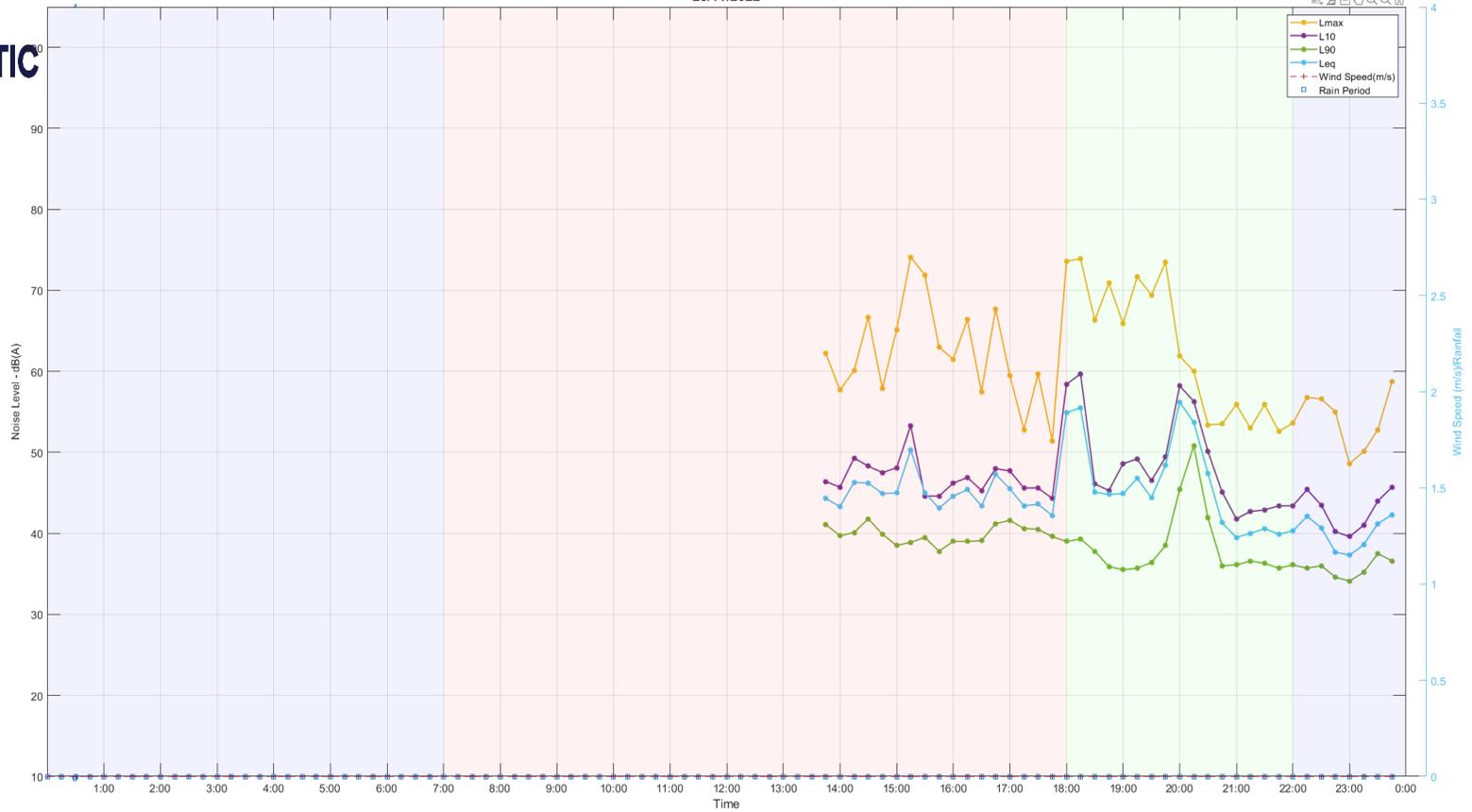
Frequency Content of Vibration Levels at M7715 Residential on 19-12-2022



## APPENDIX 4: UNATTENDED NOISE MONITORING DAILY GRAPHS (N1)

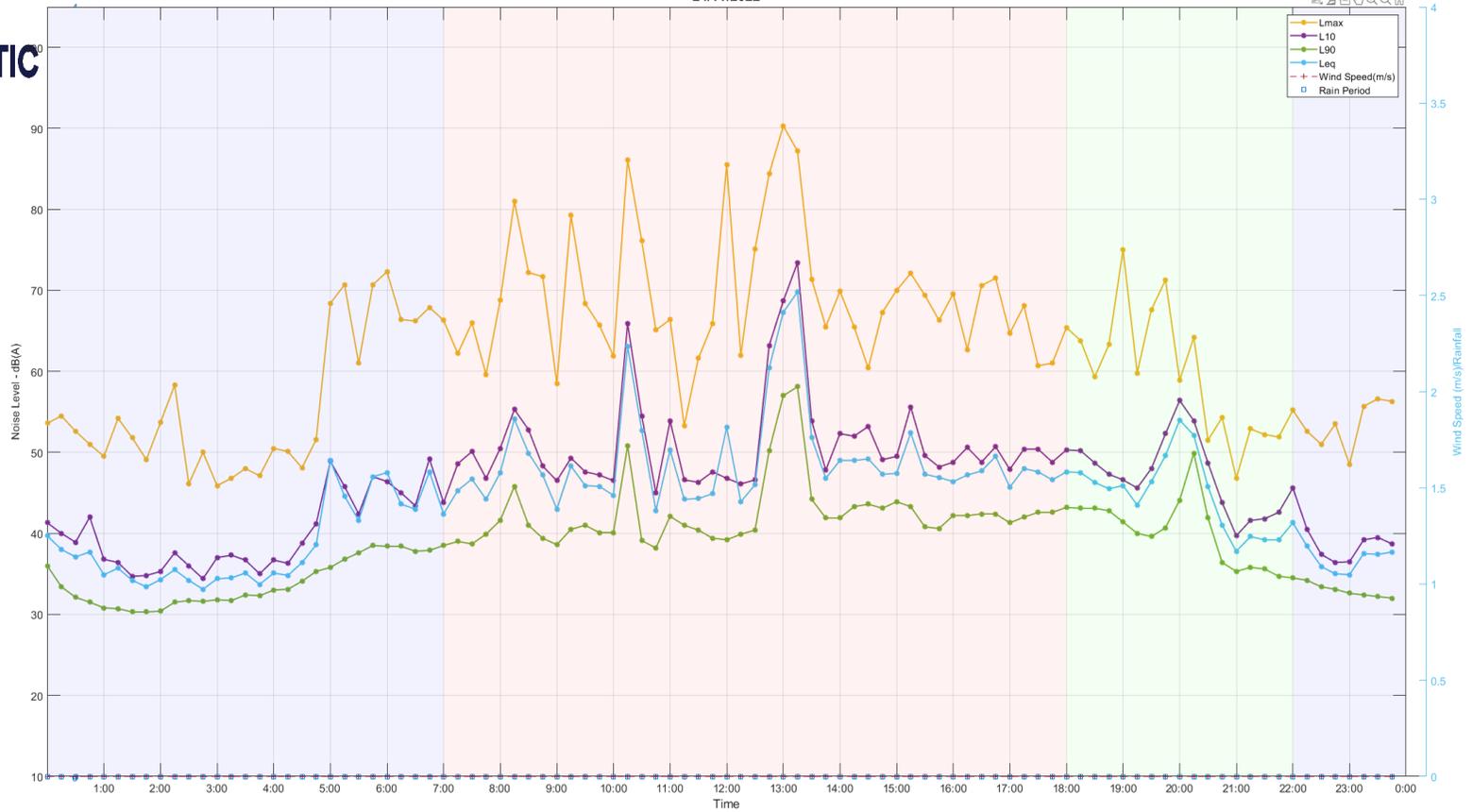


Roseville College N1  
23/11/2022



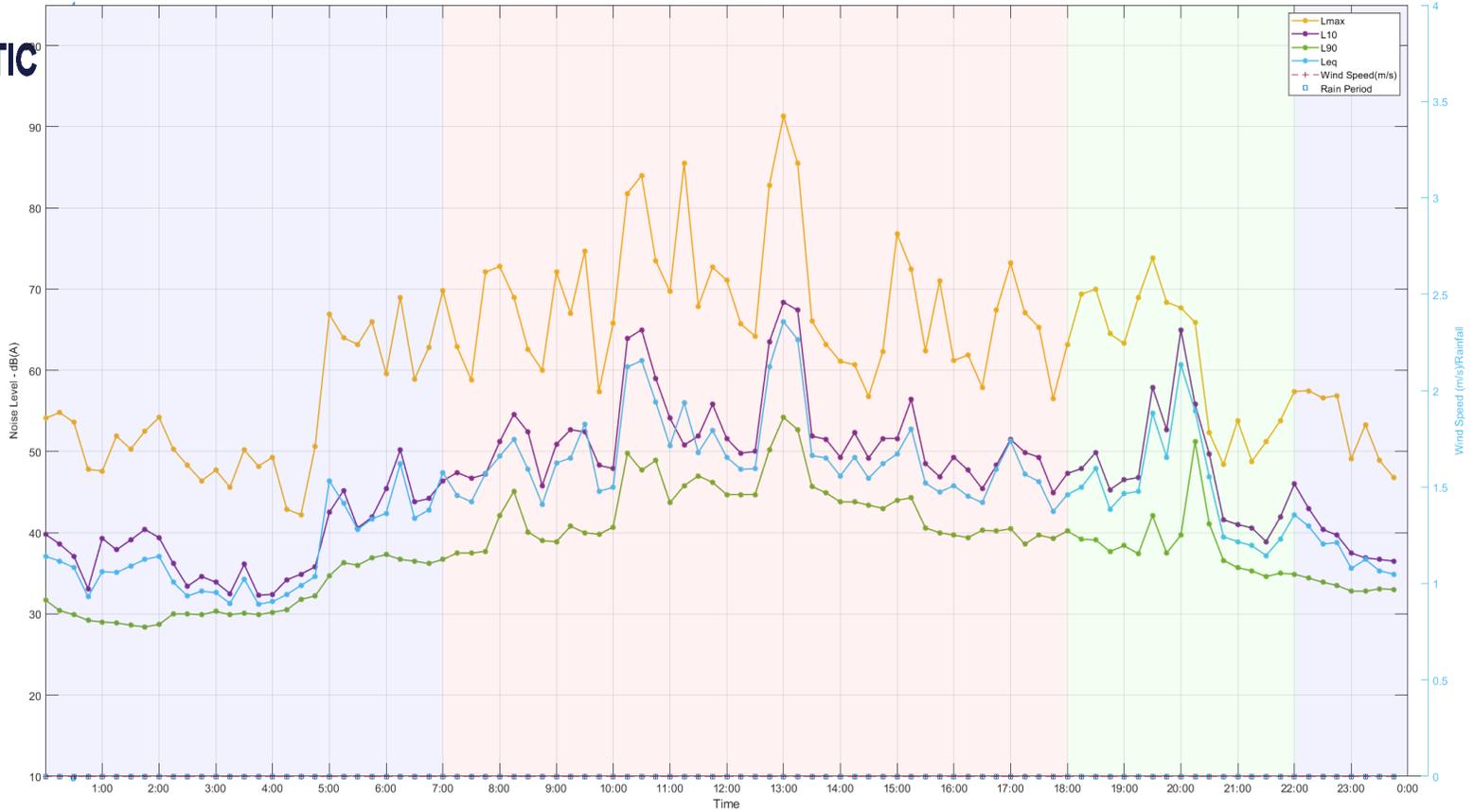


Roseville College N1  
24/11/2022



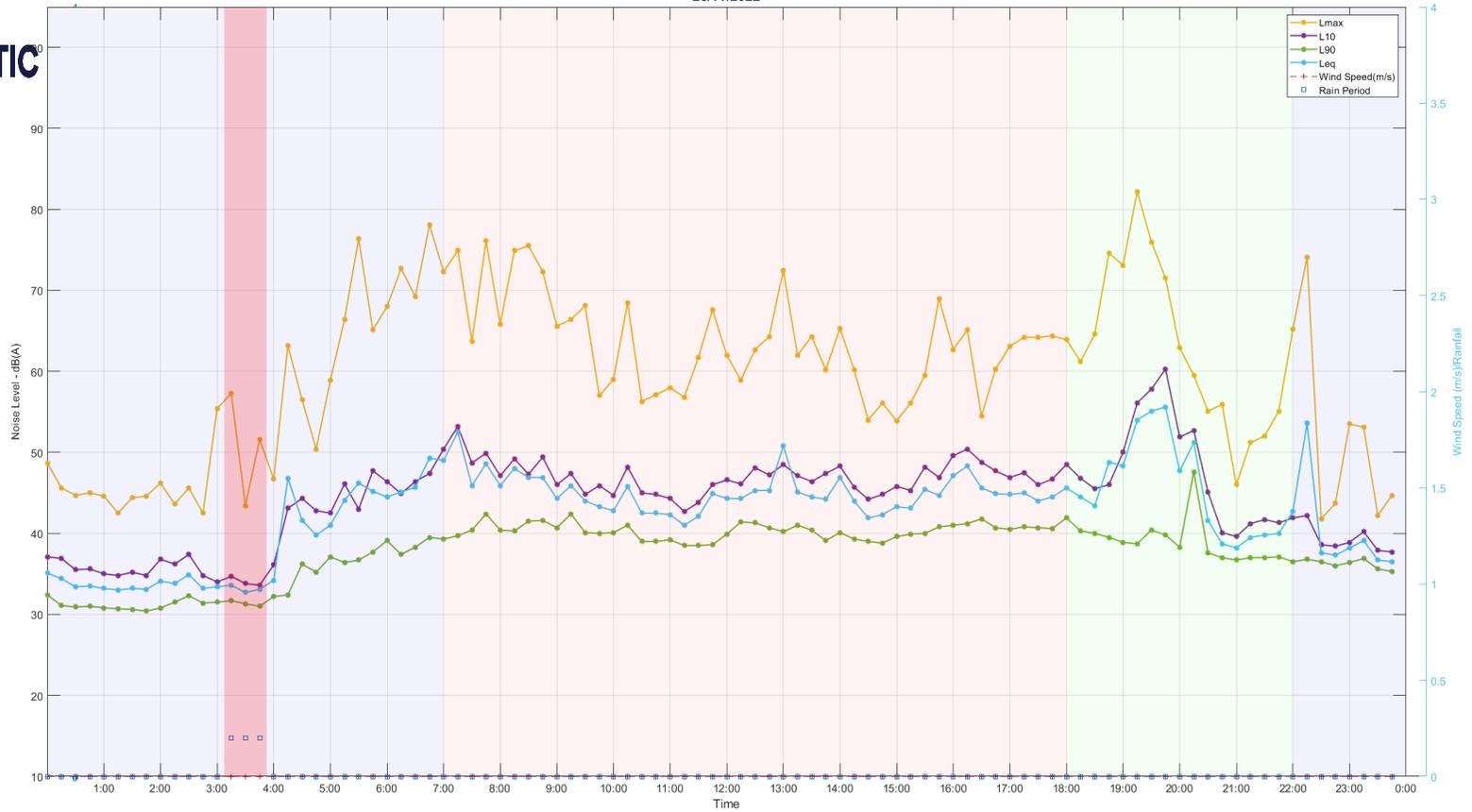


Roseville College N1  
25/11/2022



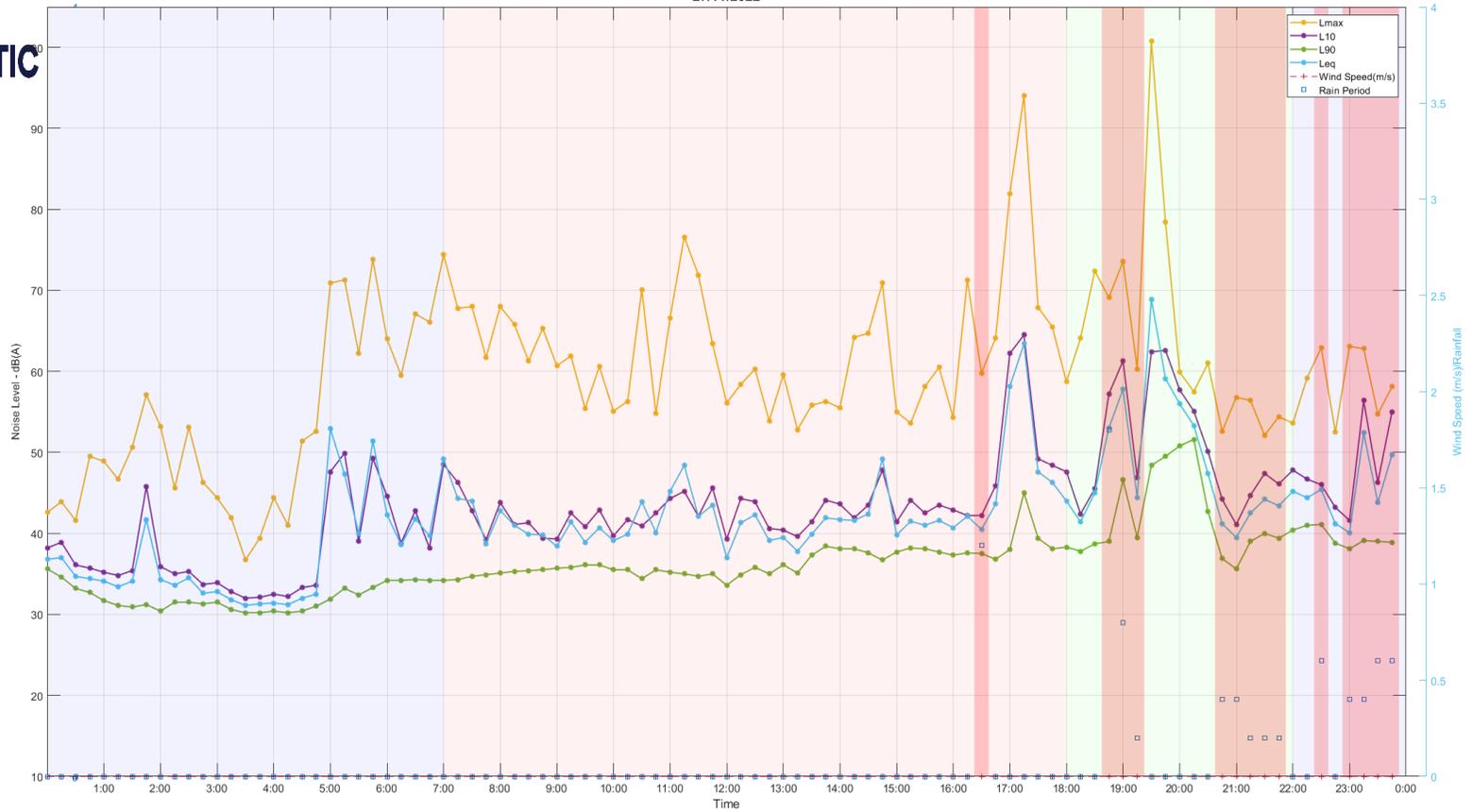


Roseville College N1  
26/11/2022



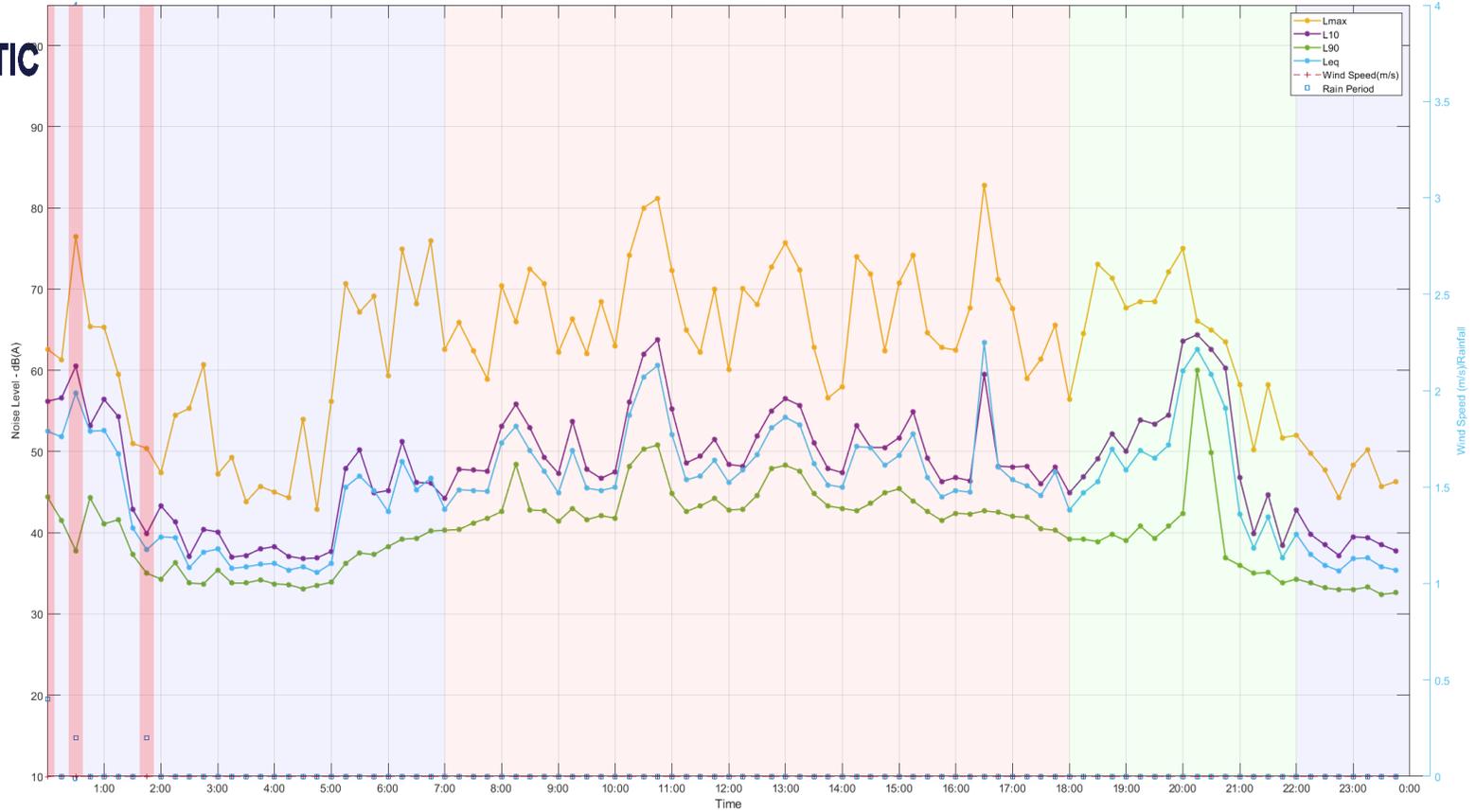


Roseville College N1  
27/11/2022



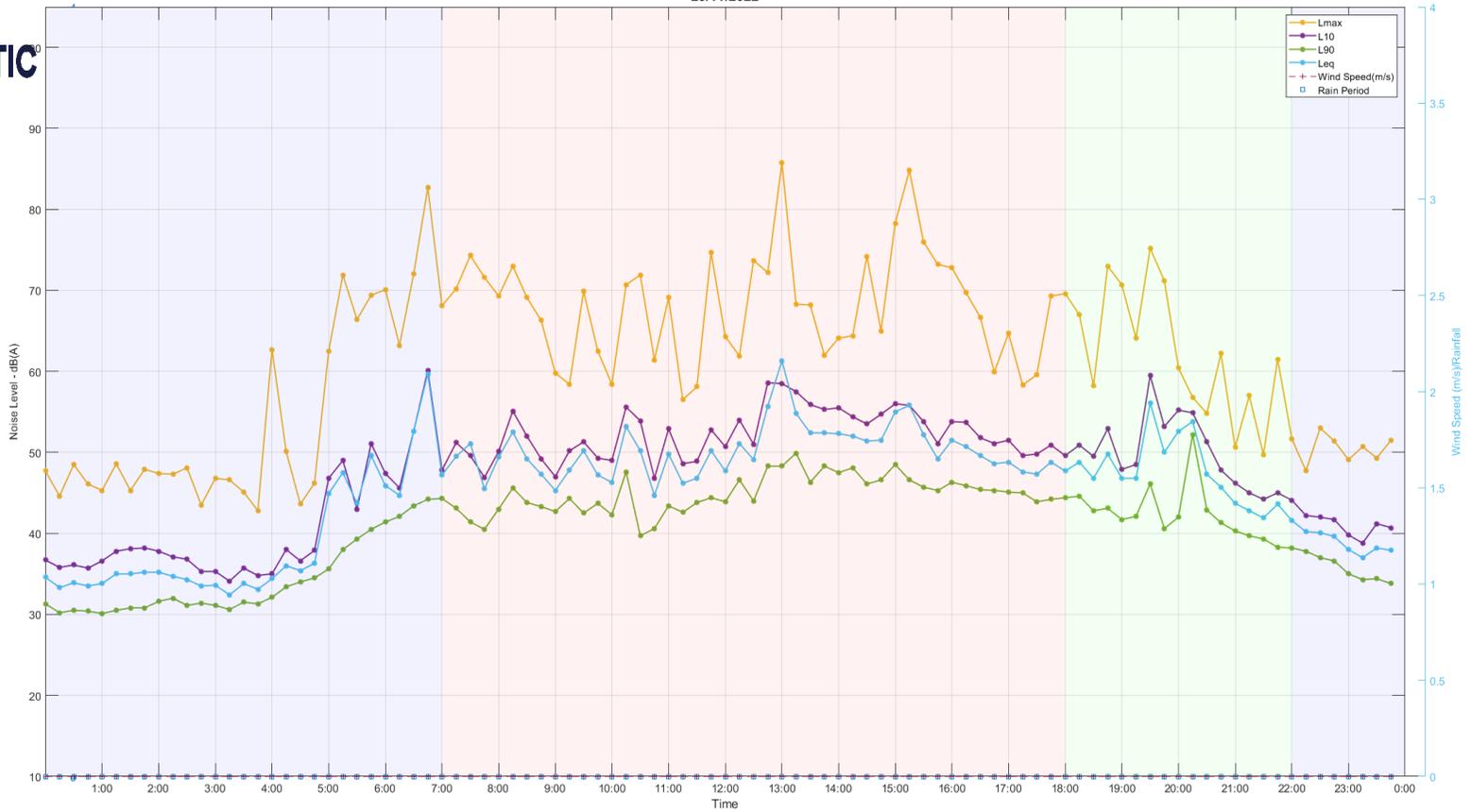


Roseville College N1  
28/11/2022



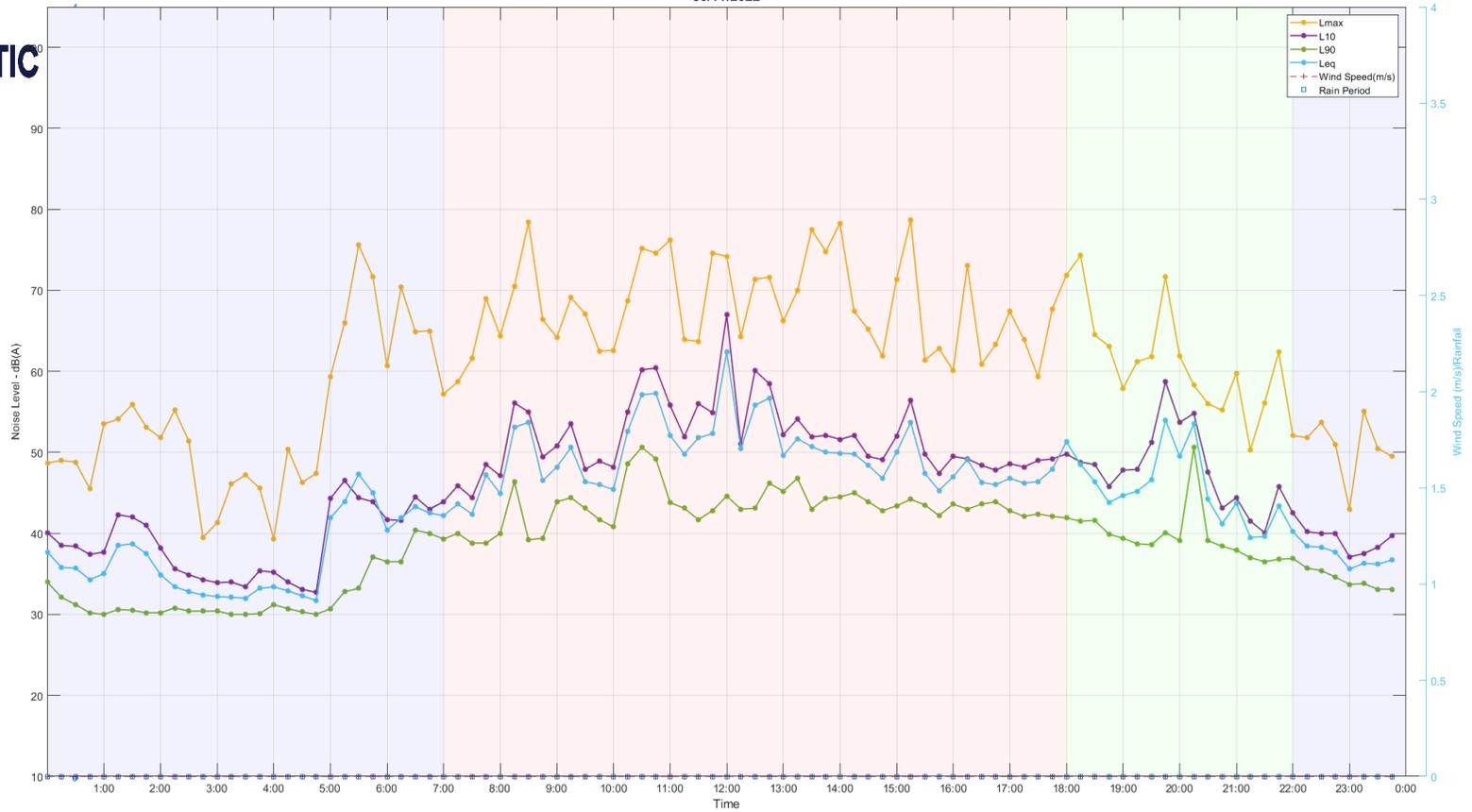


Roseville College N1  
29/11/2022



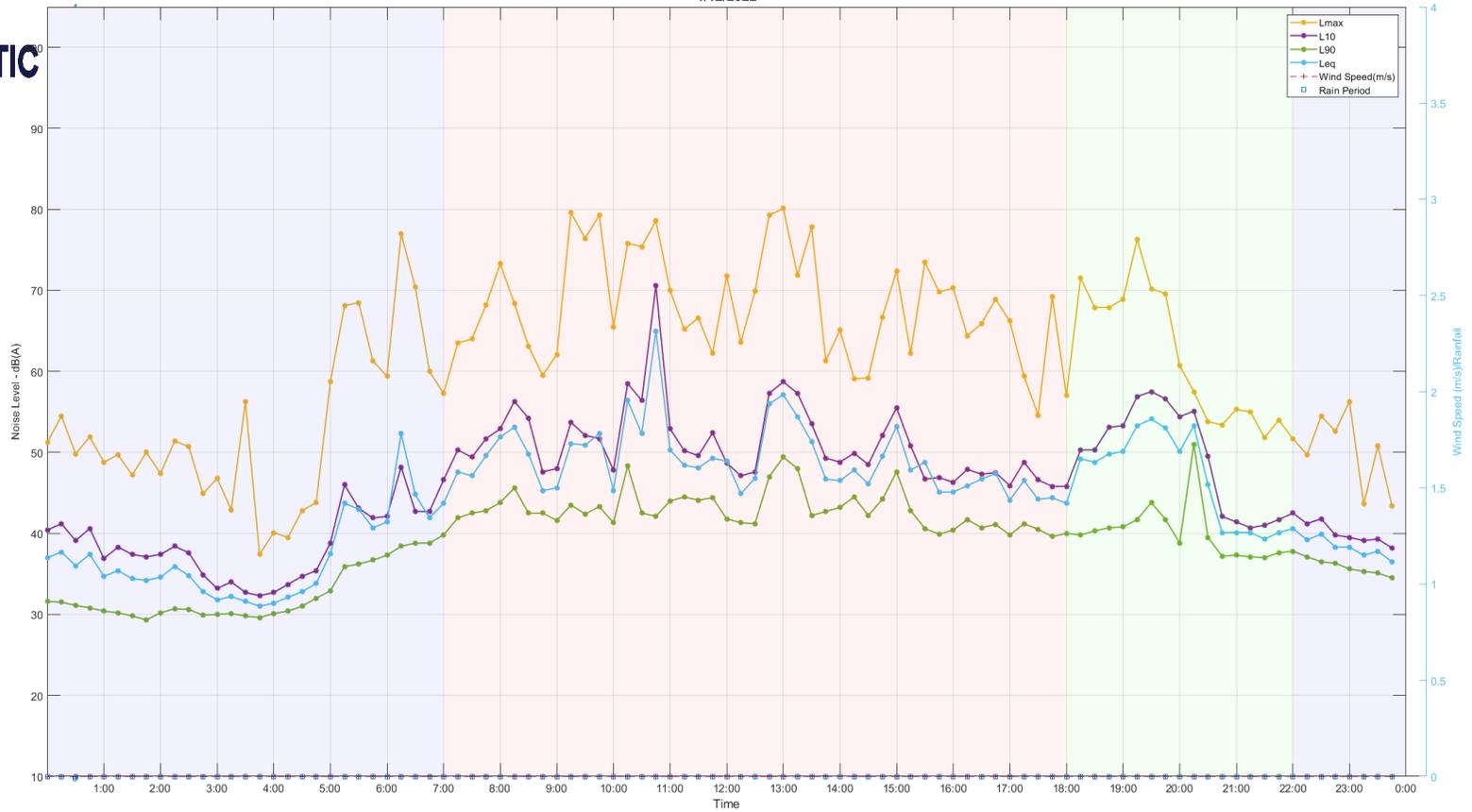


Roseville College N1  
30/11/2022



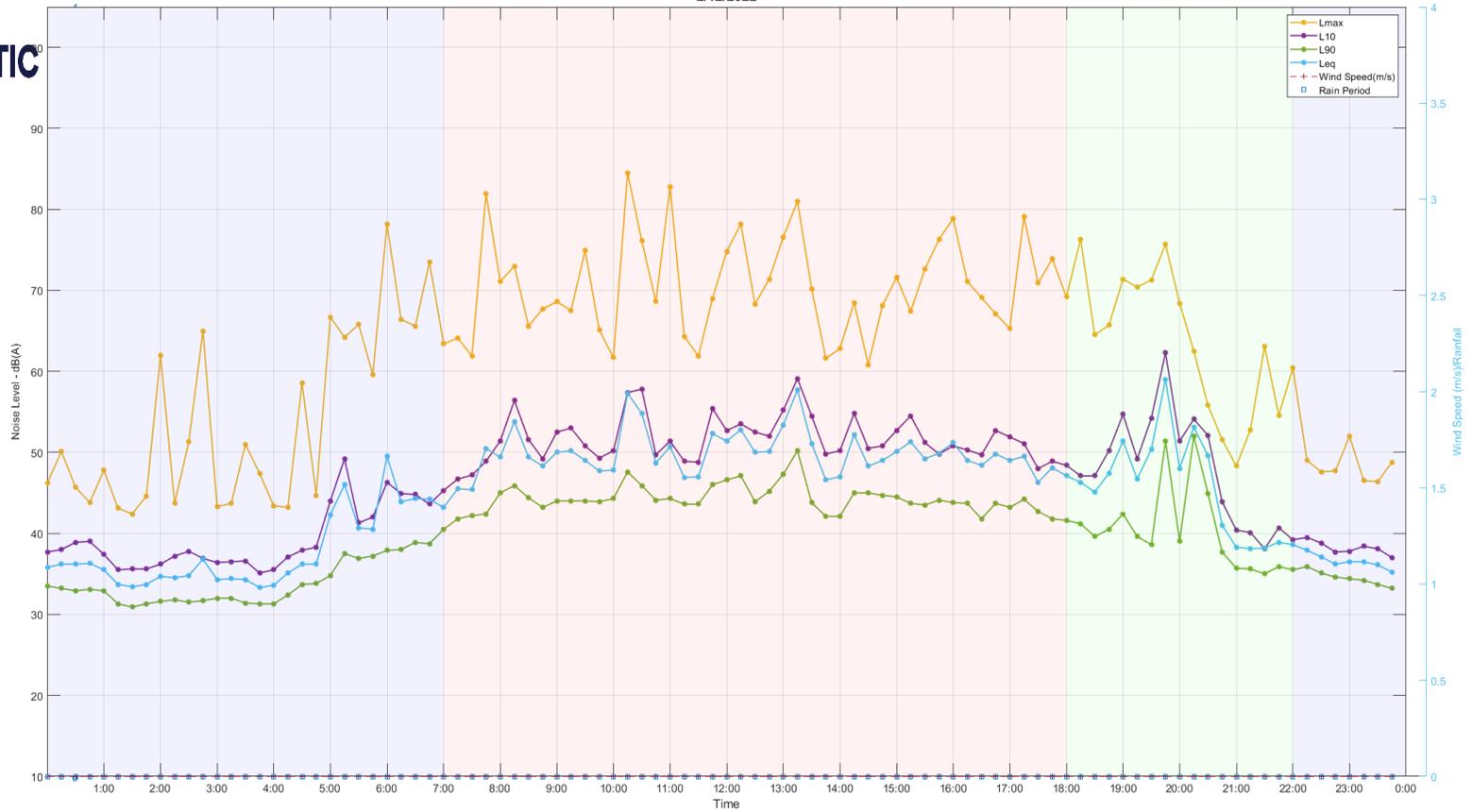


Roseville College N1  
1/12/2022



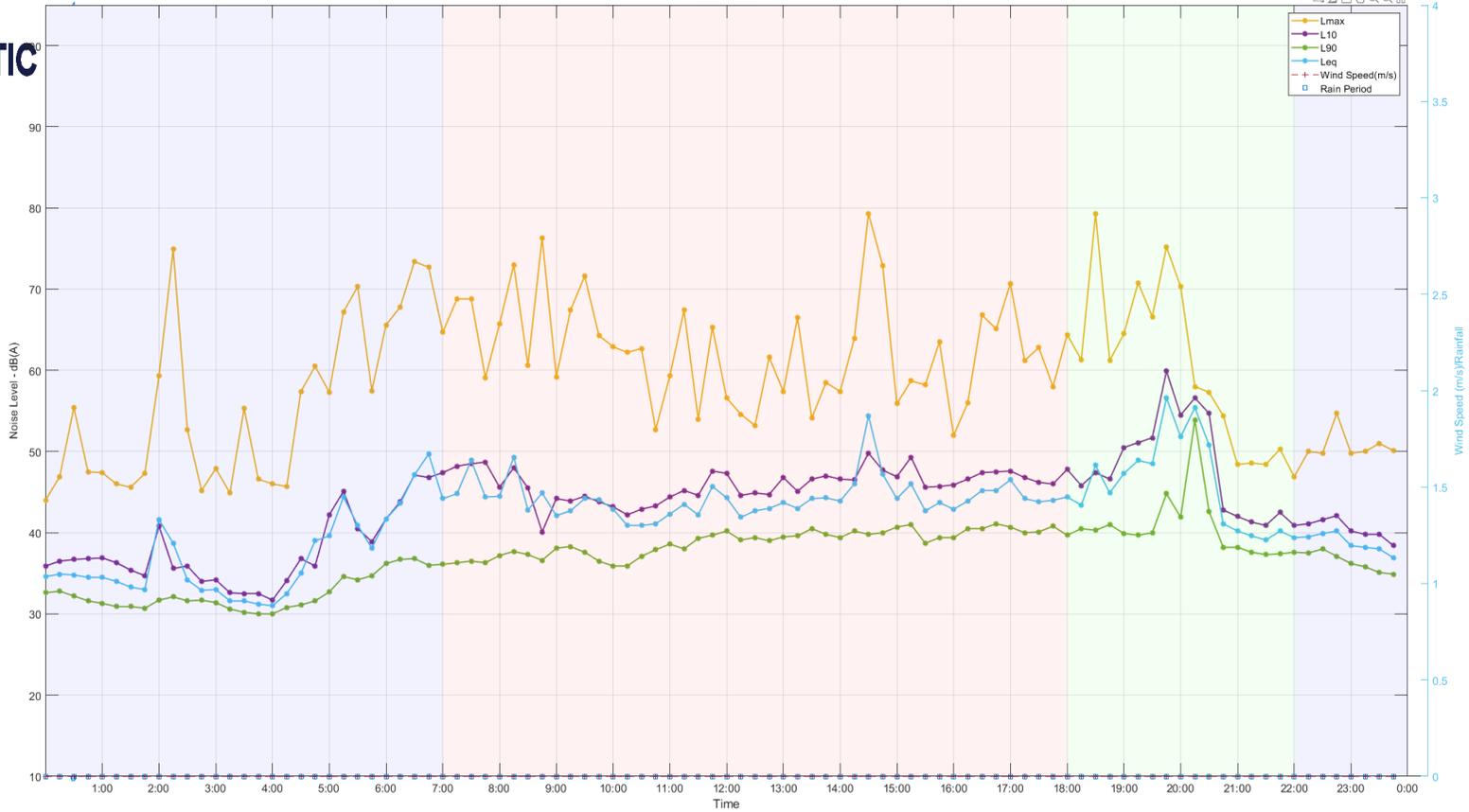


Roseville College N1  
2/12/2022



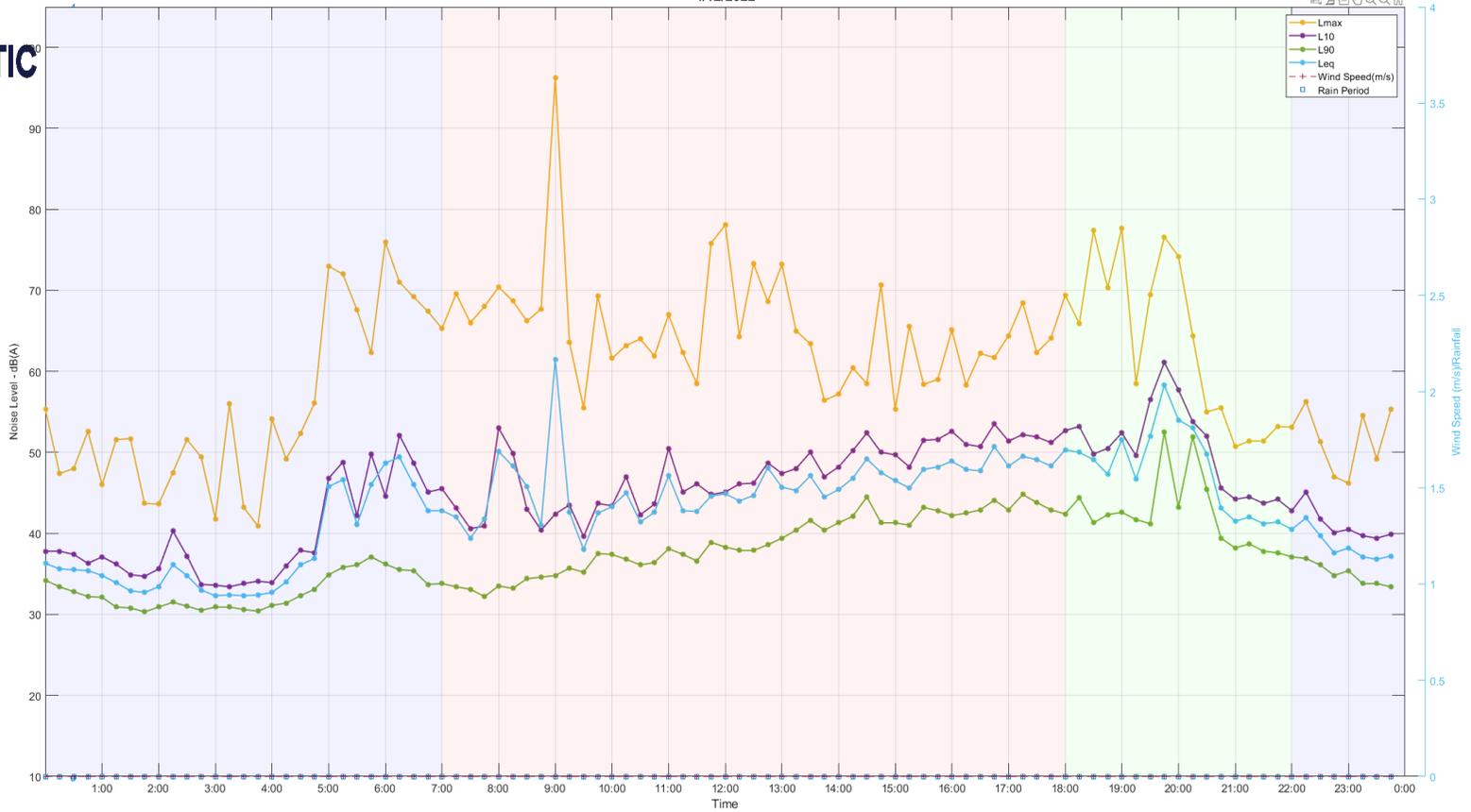


Roseville College N1  
3/12/2022



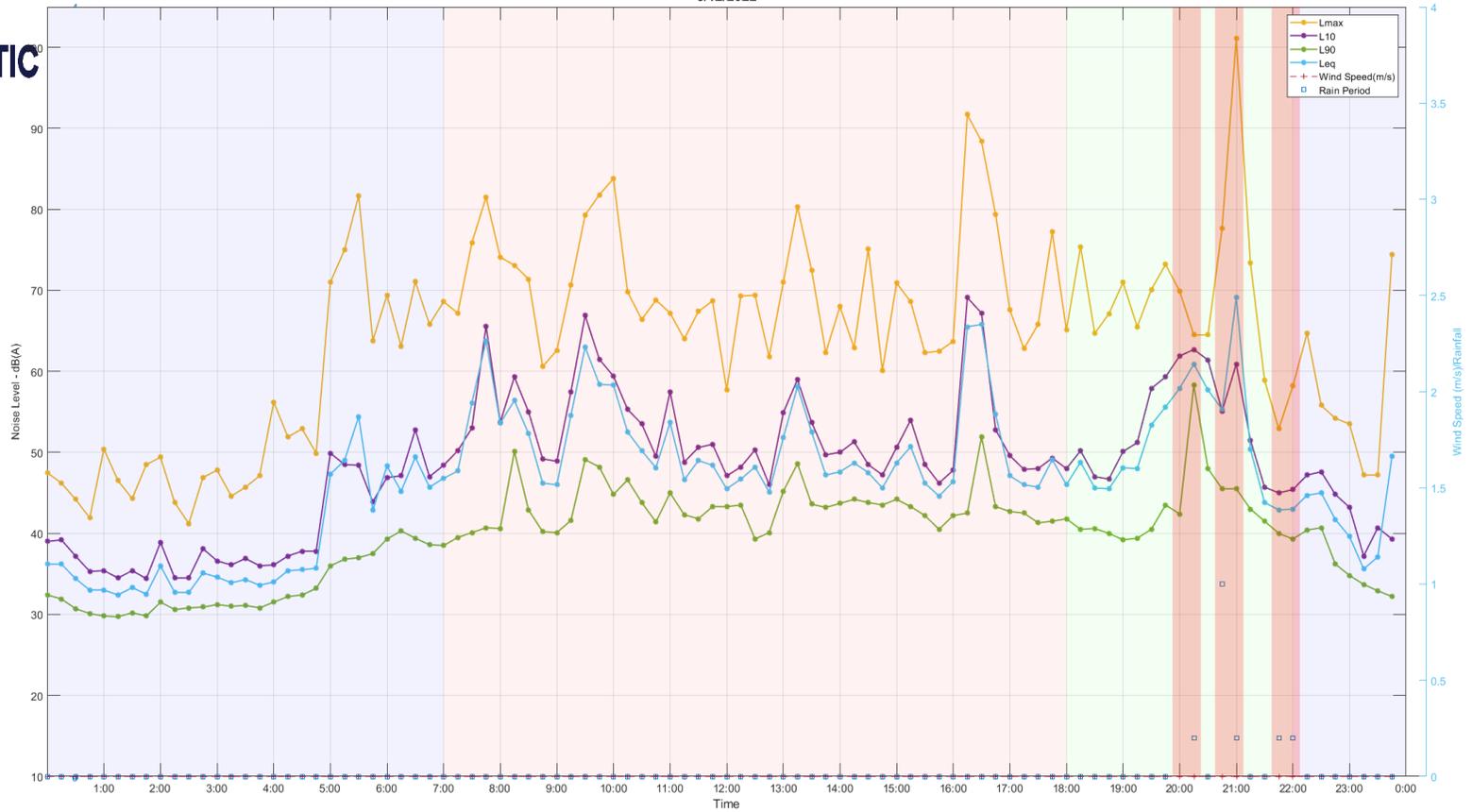


Roseville College N1  
4/12/2022



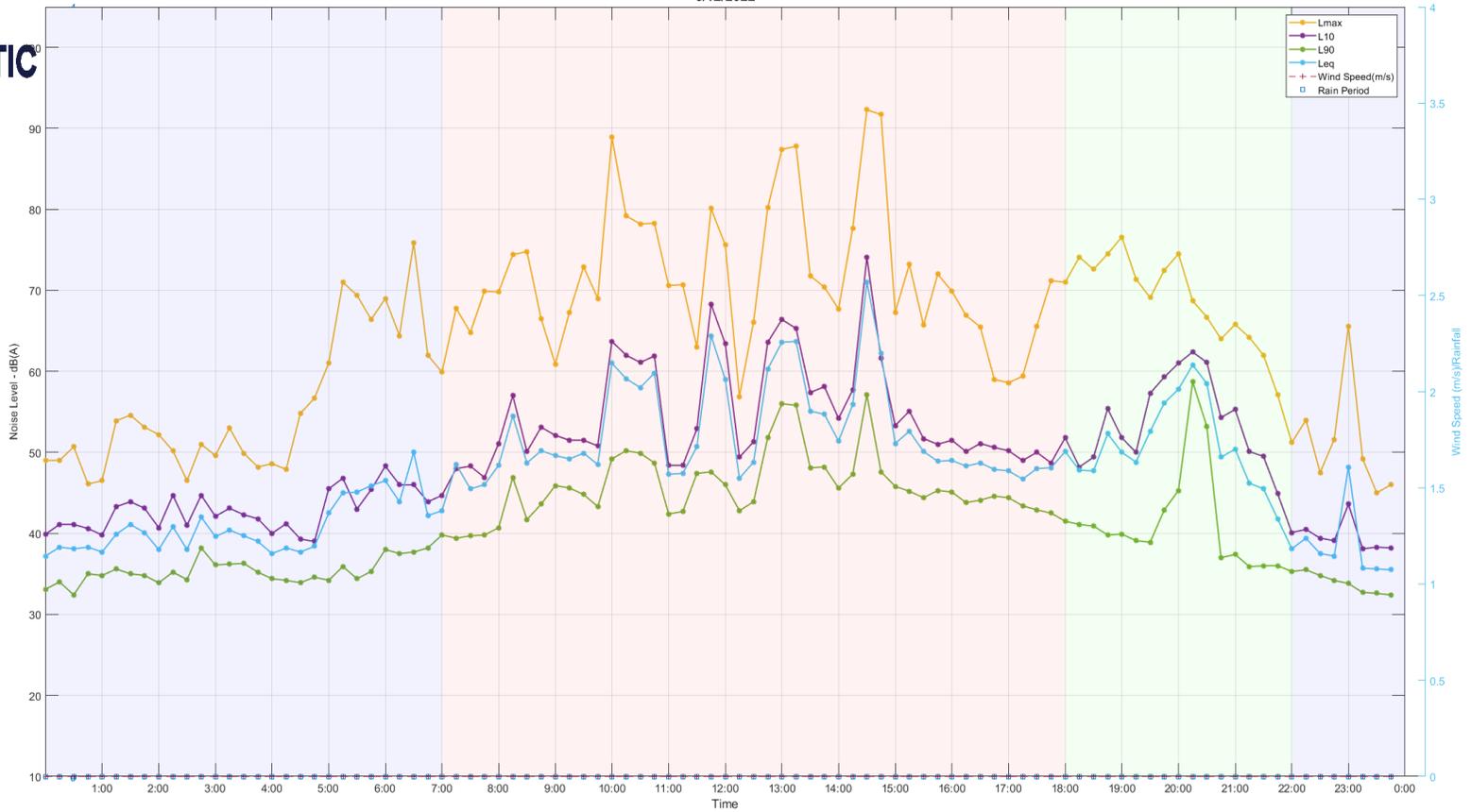


Roseville College N1  
5/12/2022



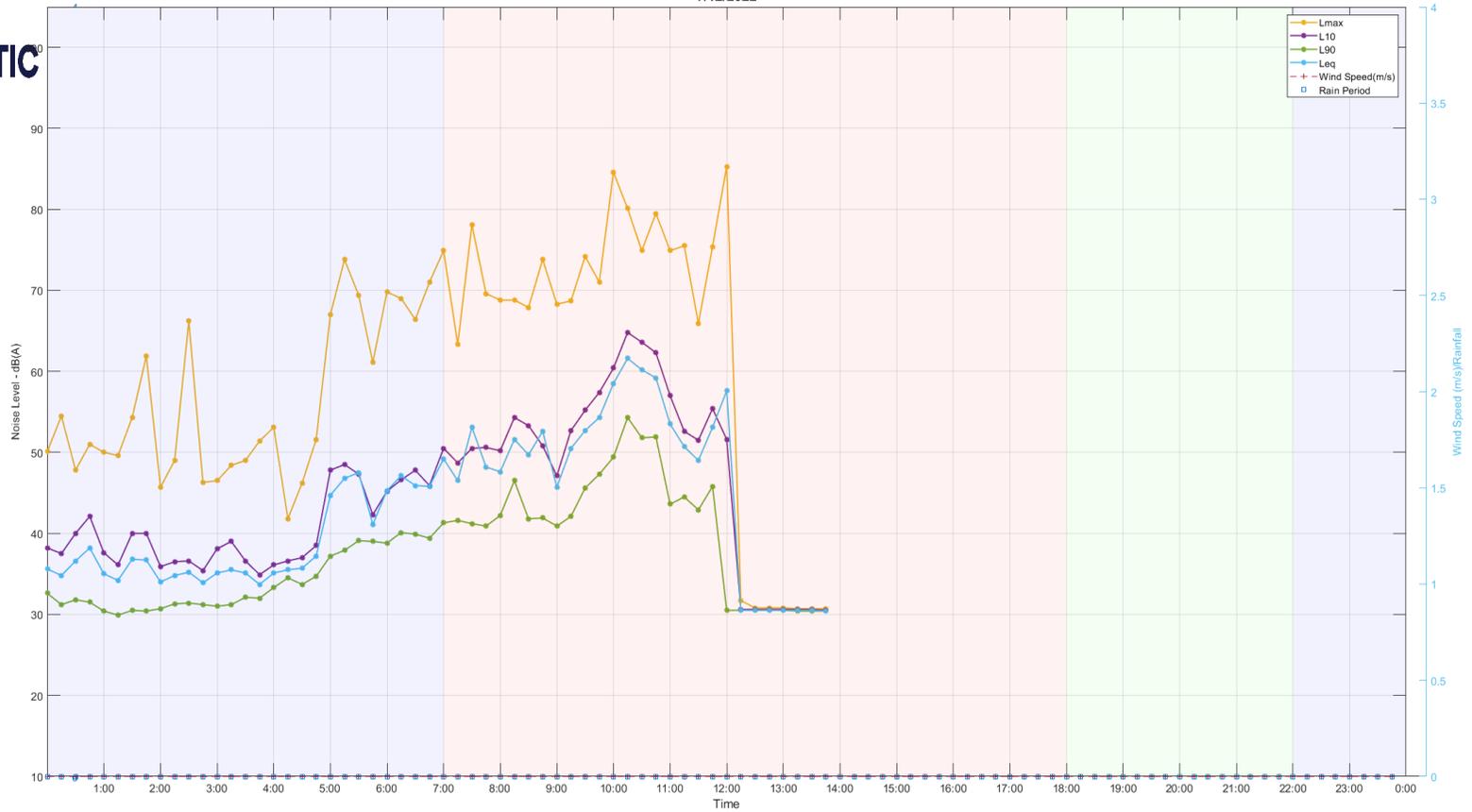


Roseville College N1  
6/12/2022





Roseville College N1  
7/12/2022



## APPENDIX 5: UNATTENDED NOISE MONITORING DAILY GRAPHS (N2)



Roseville College N2  
23/11/2022





Roseville College N2  
24/11/2022



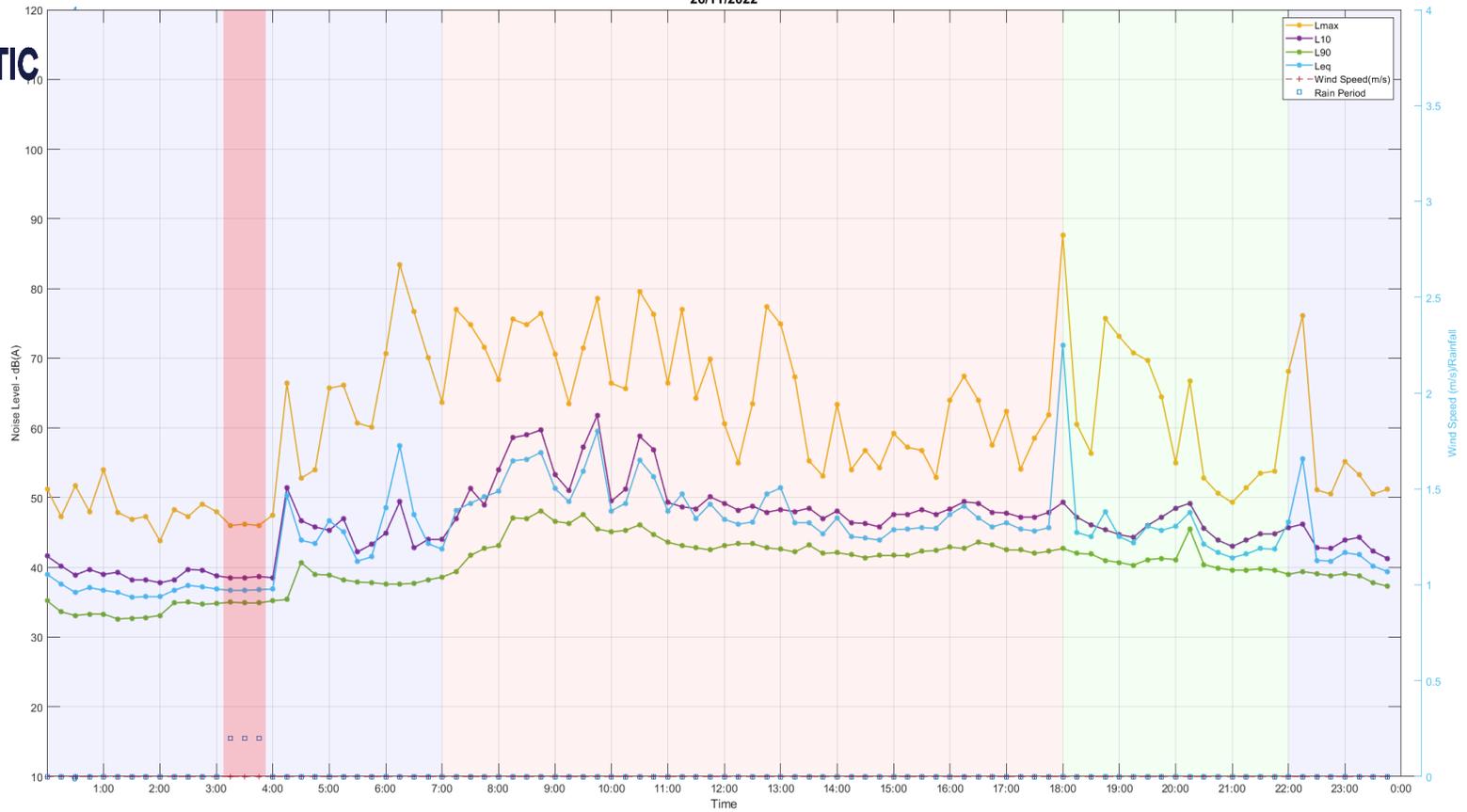


Roseville College N2  
25/11/2022



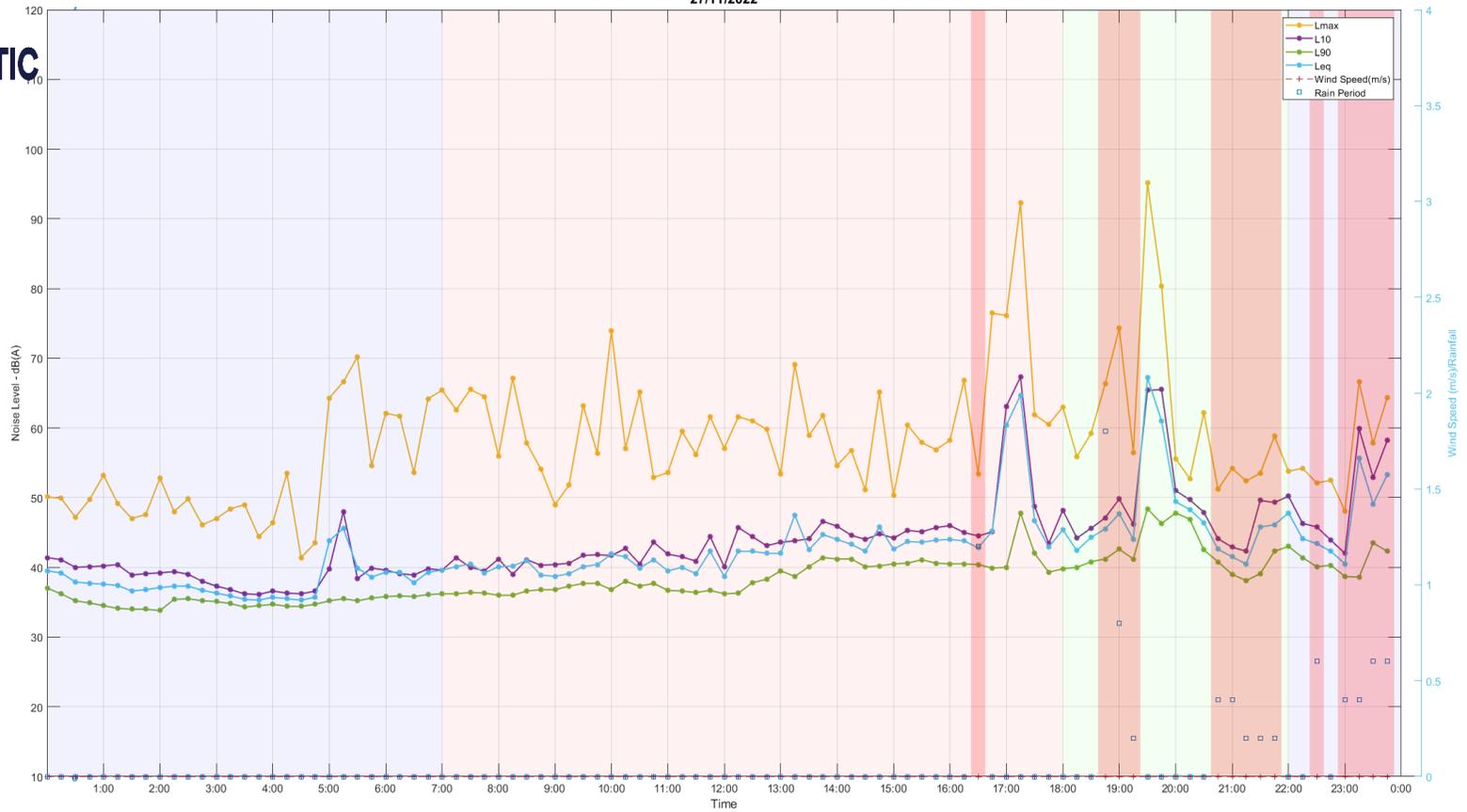


Roseville College N2  
26/11/2022





Roseville College N2  
27/11/2022



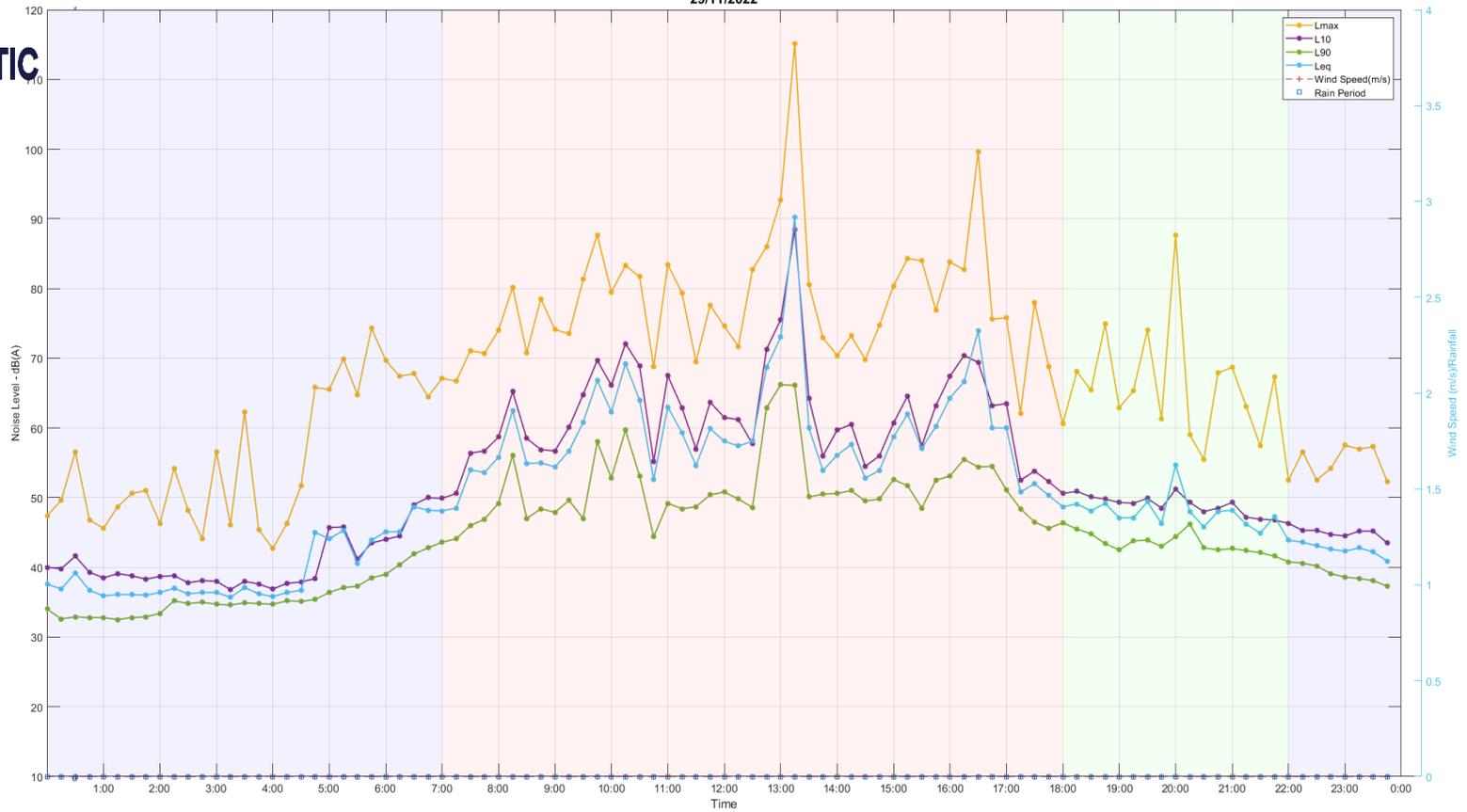


Roseville College N2  
28/11/2022



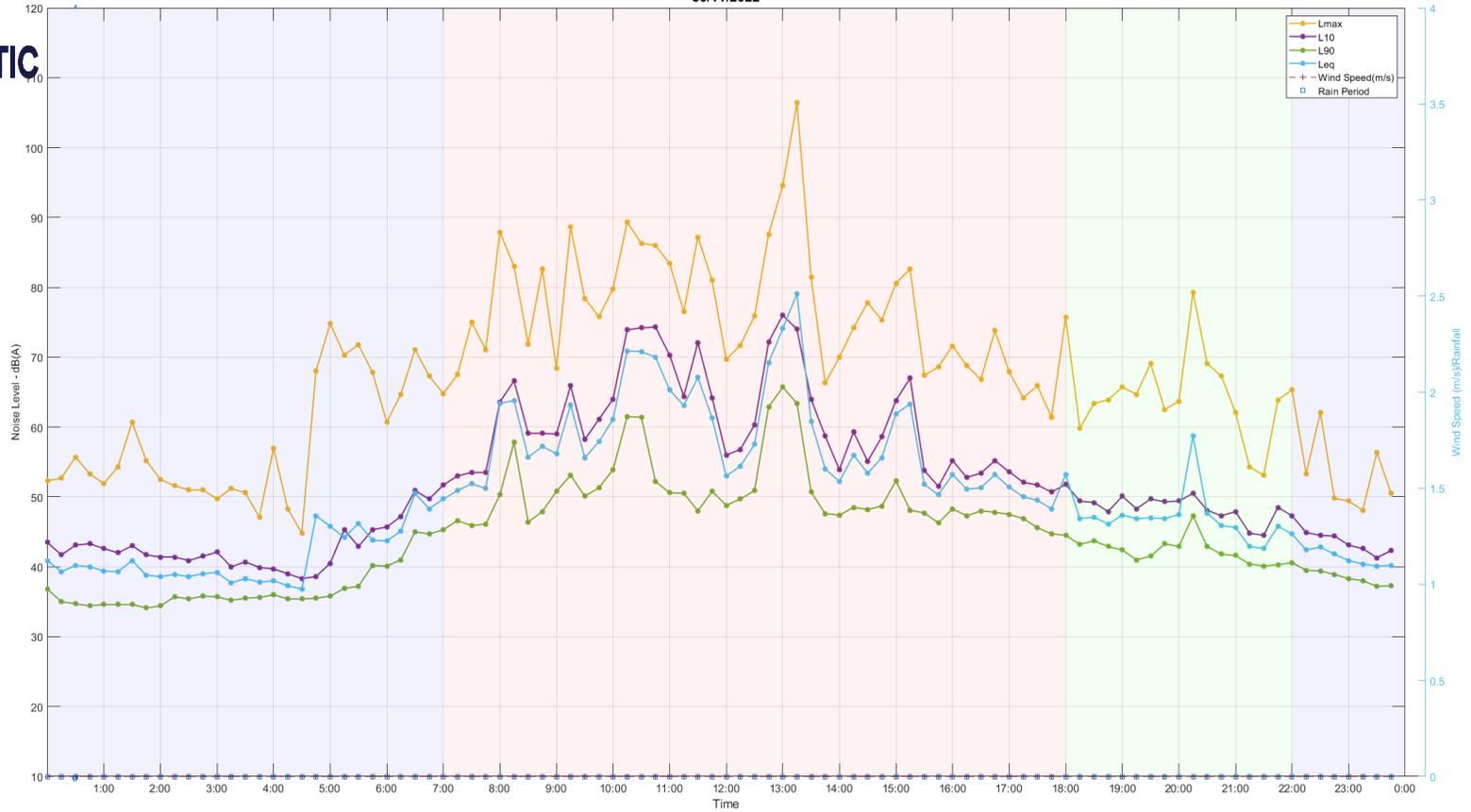


Roseville College N2  
29/11/2022





Roseville College N2  
30/11/2022





Roseville College N2  
1/12/2022



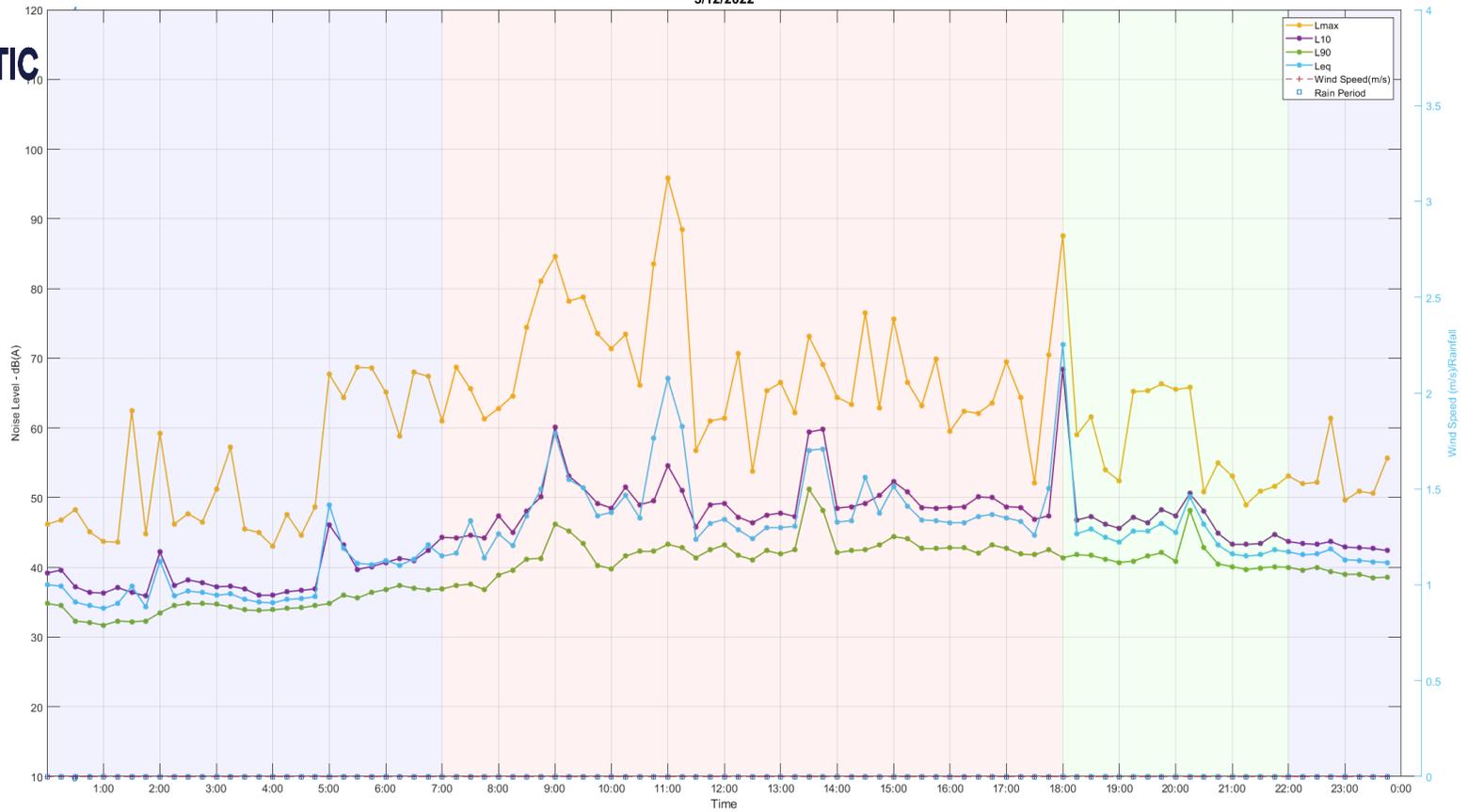


Roseville College N2  
2/12/2022



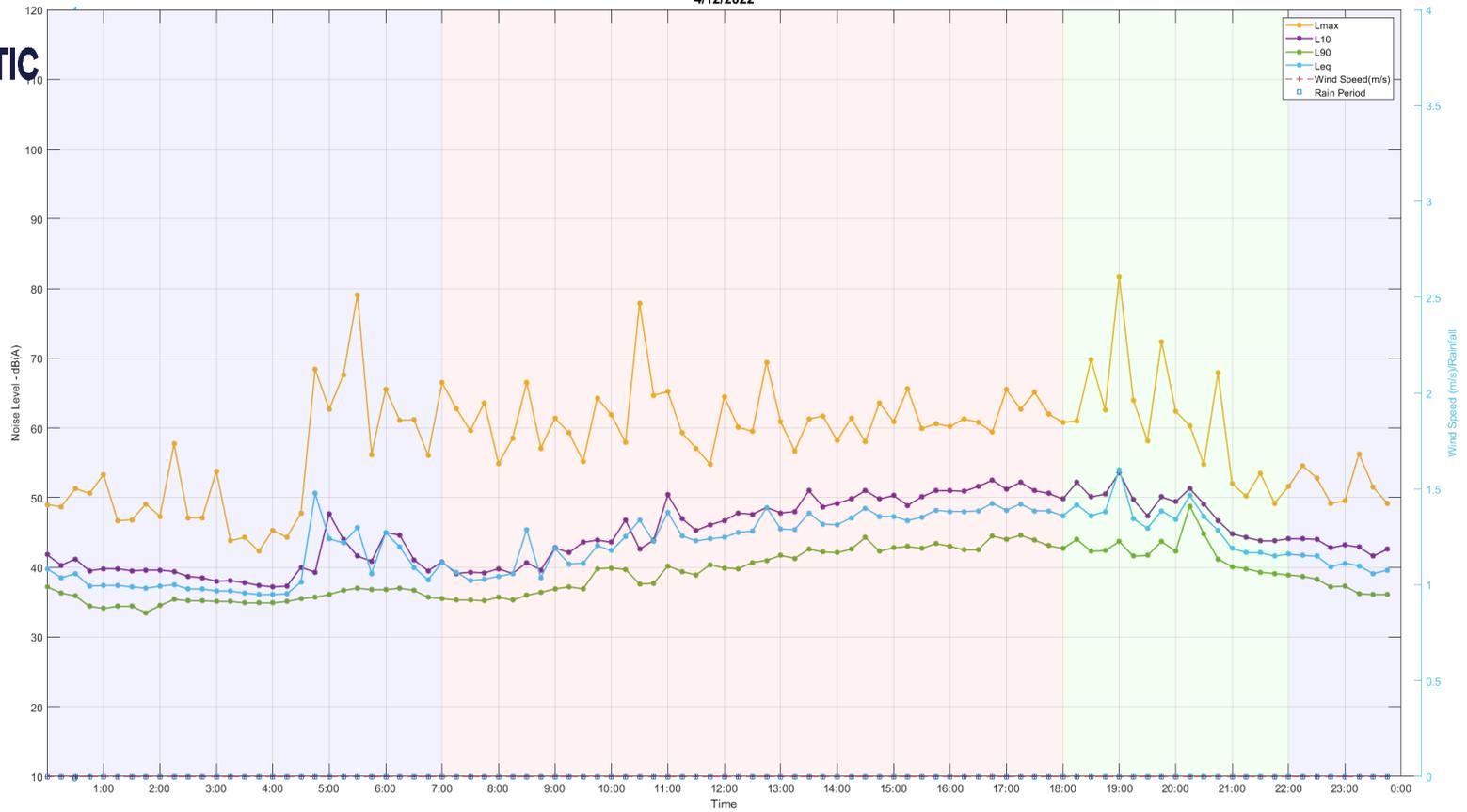


Roseville College N2  
3/12/2022



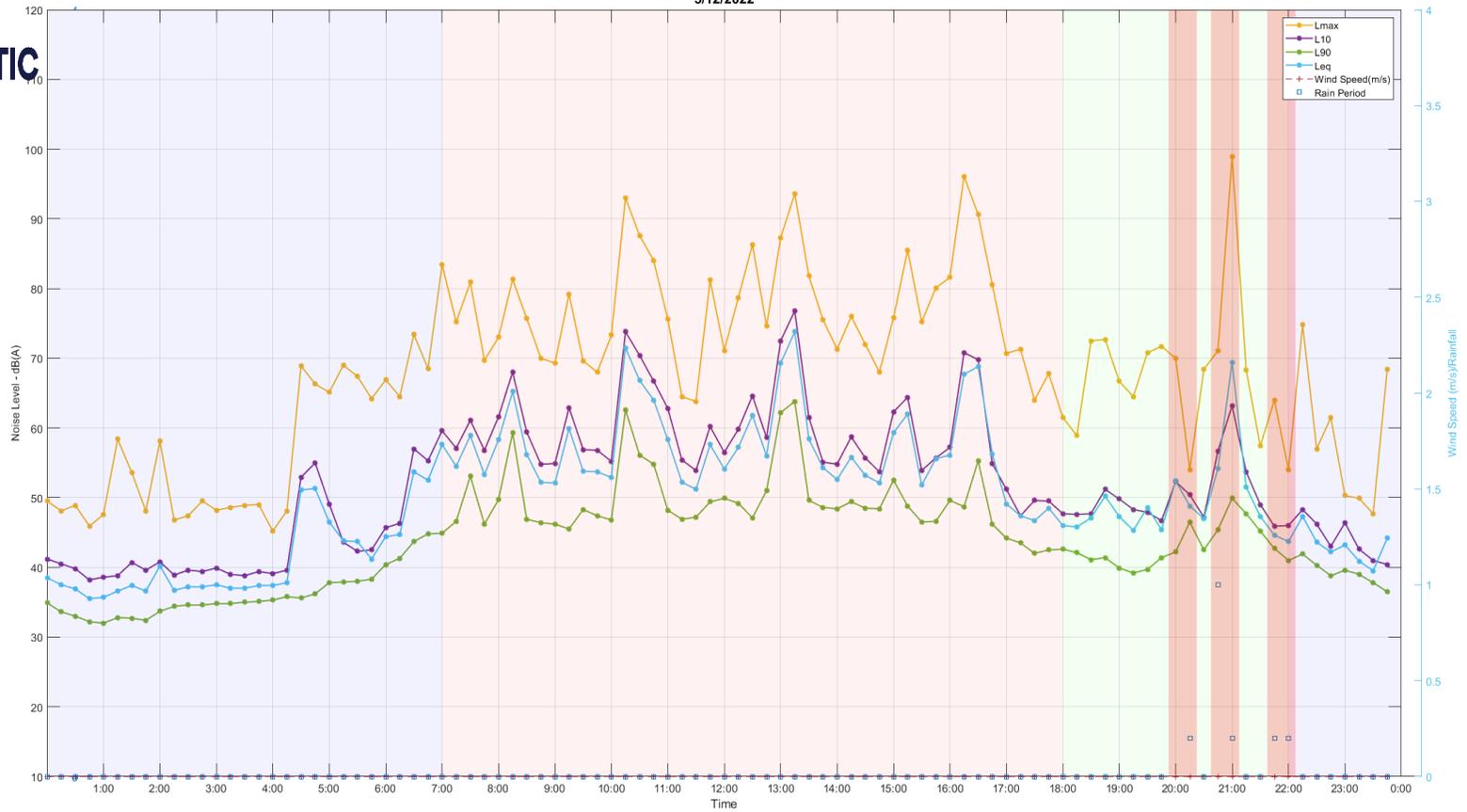


Roseville College N2  
4/12/2022





Roseville College N2  
5/12/2022





Roseville College N2  
6/12/2022





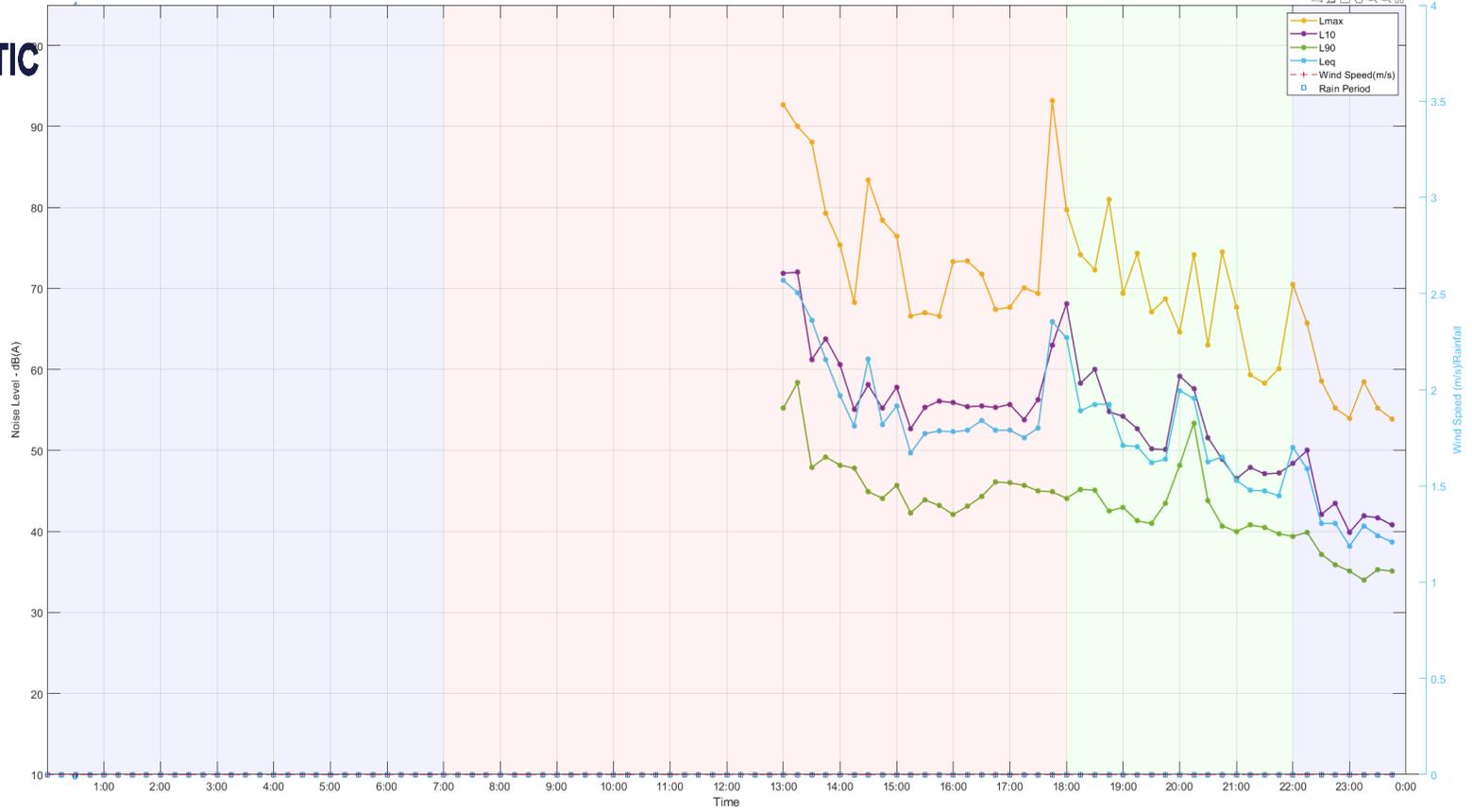
Roseville College N2  
7/12/2022



## APPENDIX 6 : UNATTENDED NOISE MONITORING DAILY GRAPHS (N3)



Roseville College N3  
23/11/2022



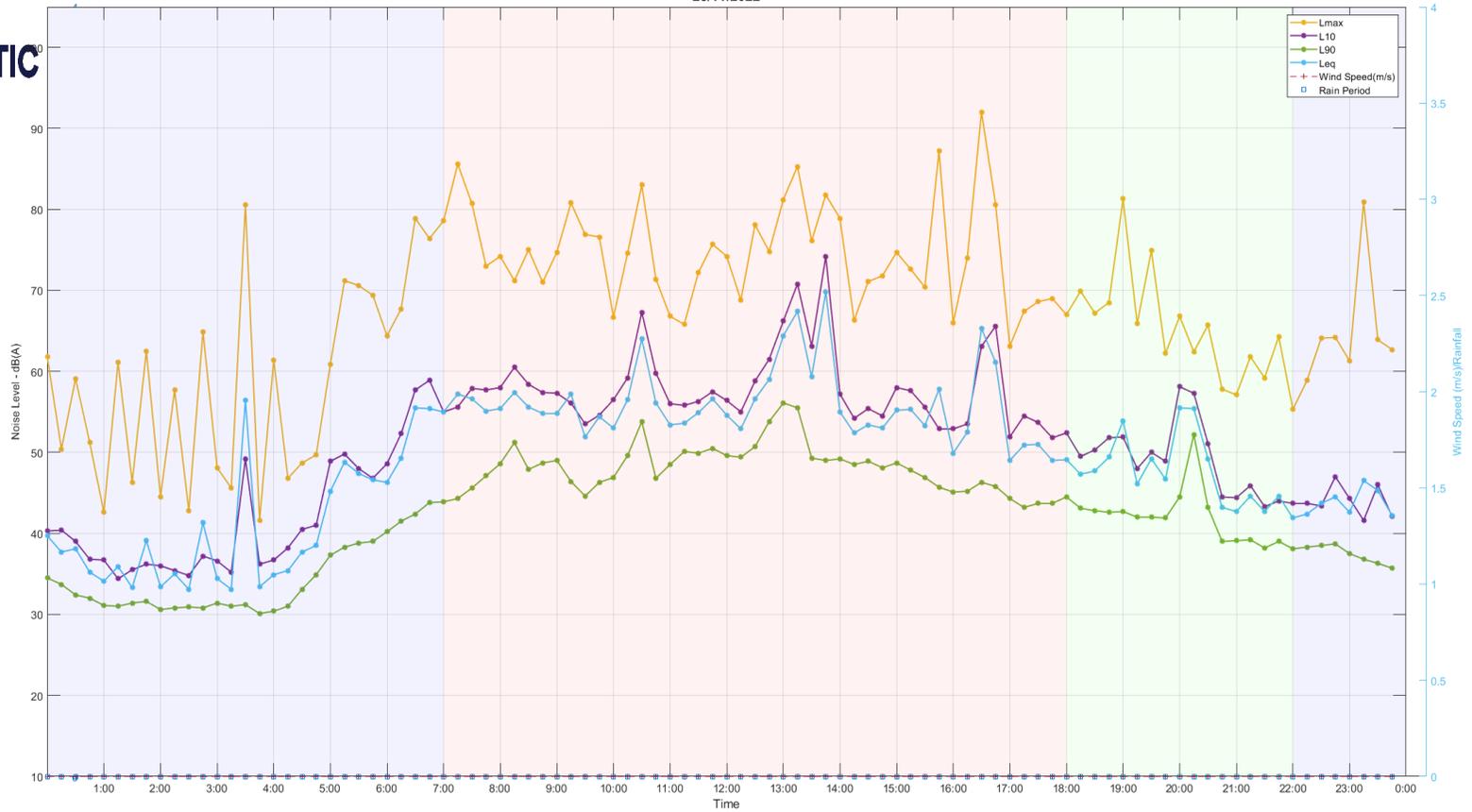


Roseville College N3  
24/11/2022



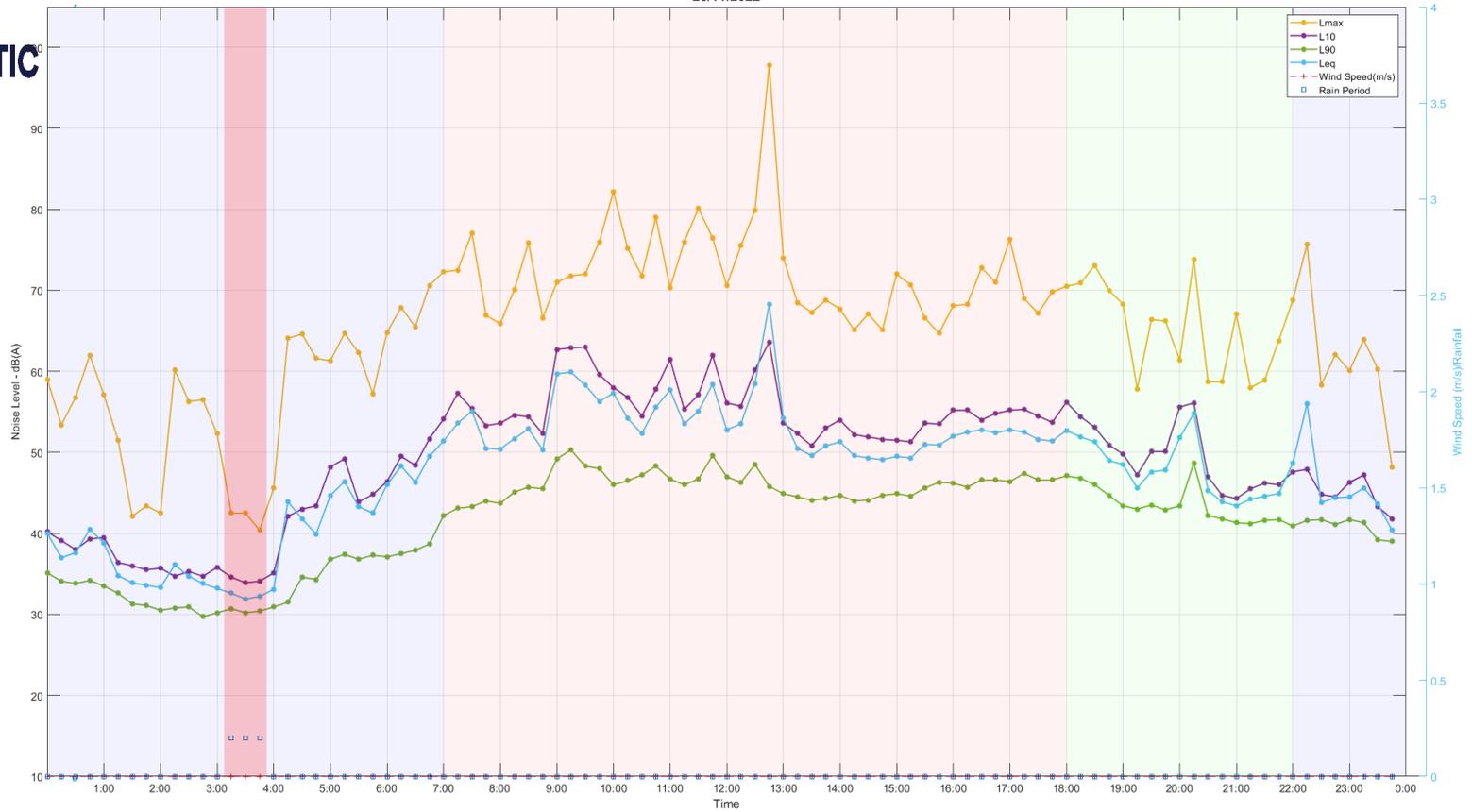


Roseville College N3  
25/11/2022



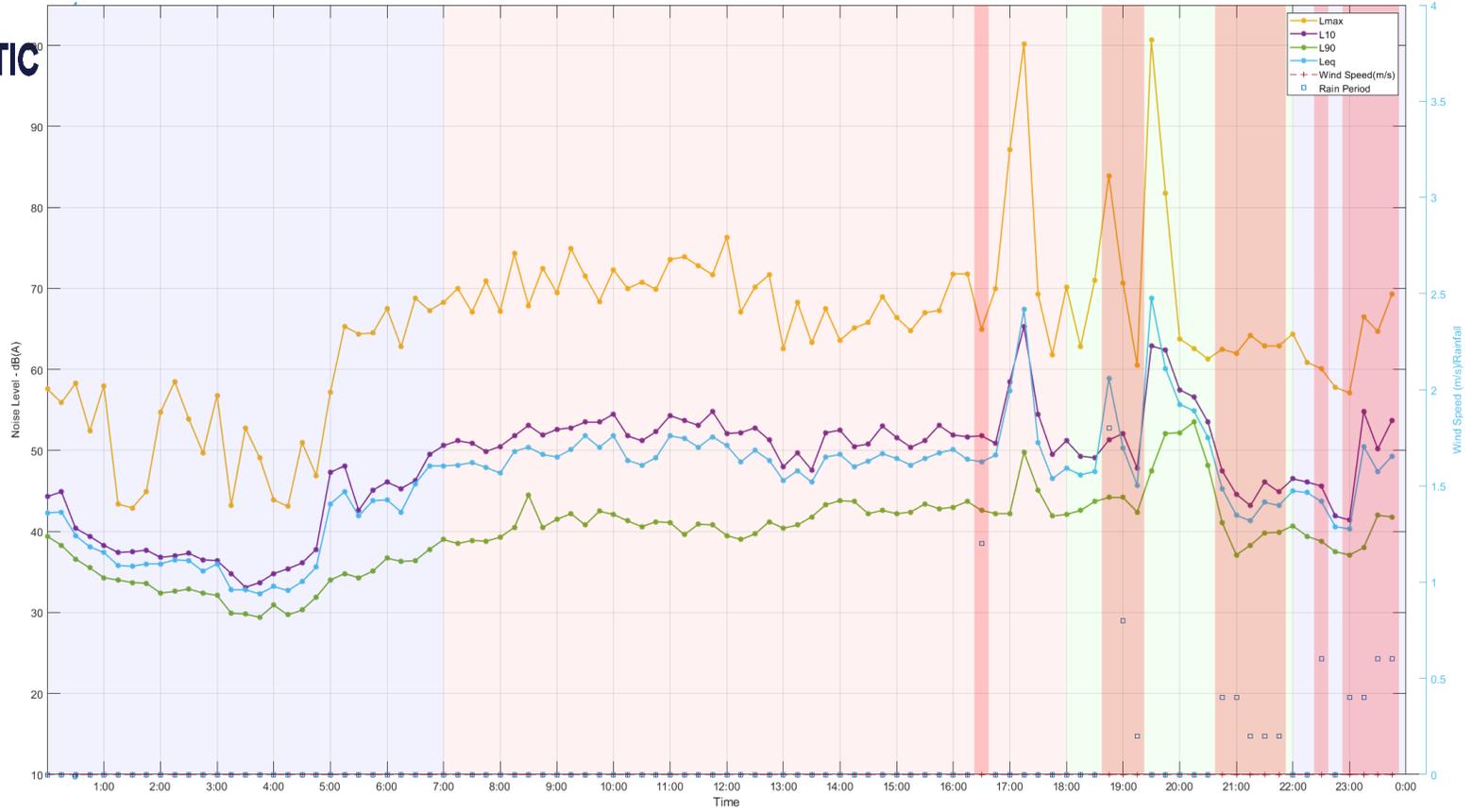


Roseville College N3  
26/11/2022



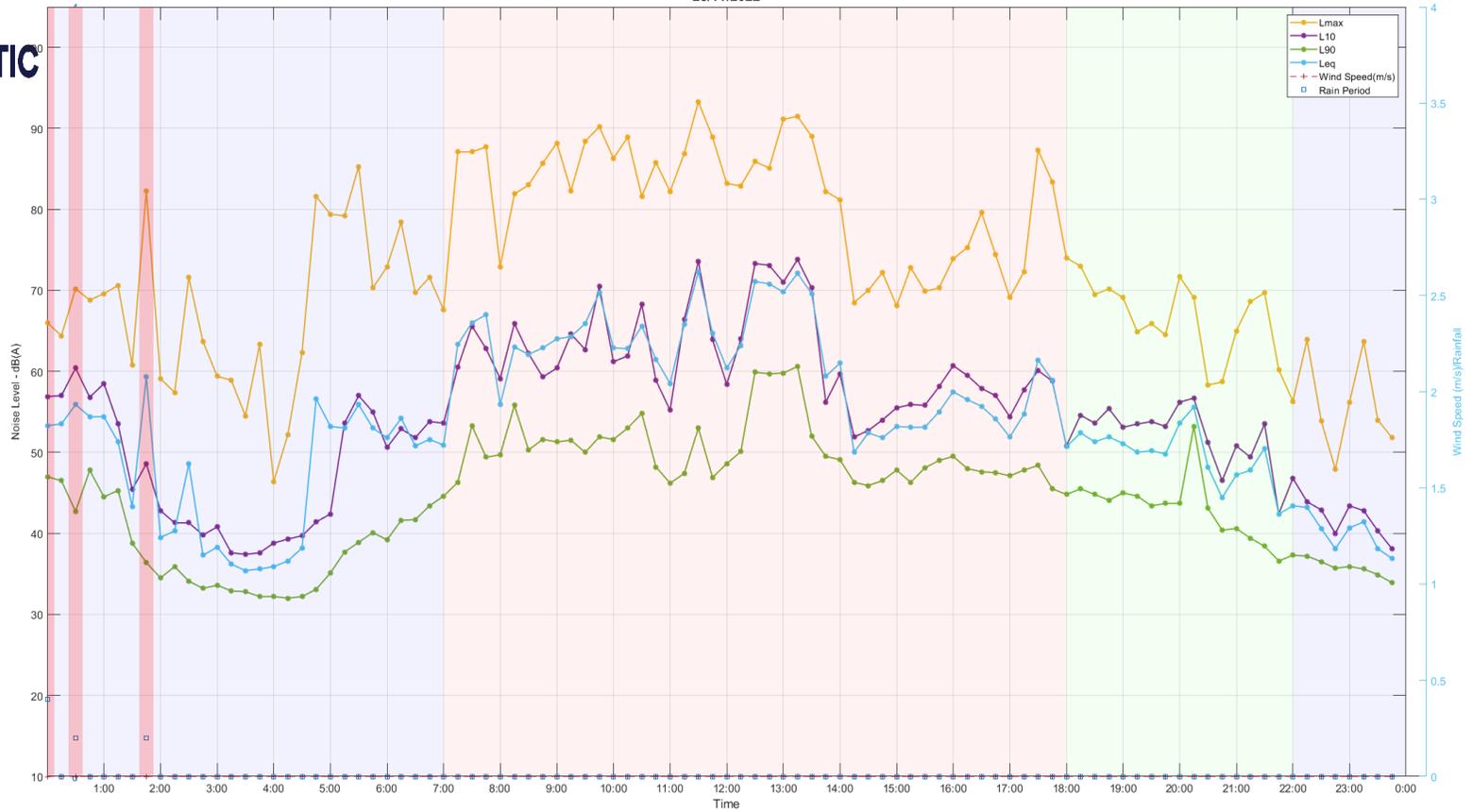


Roseville College N3  
27/11/2022



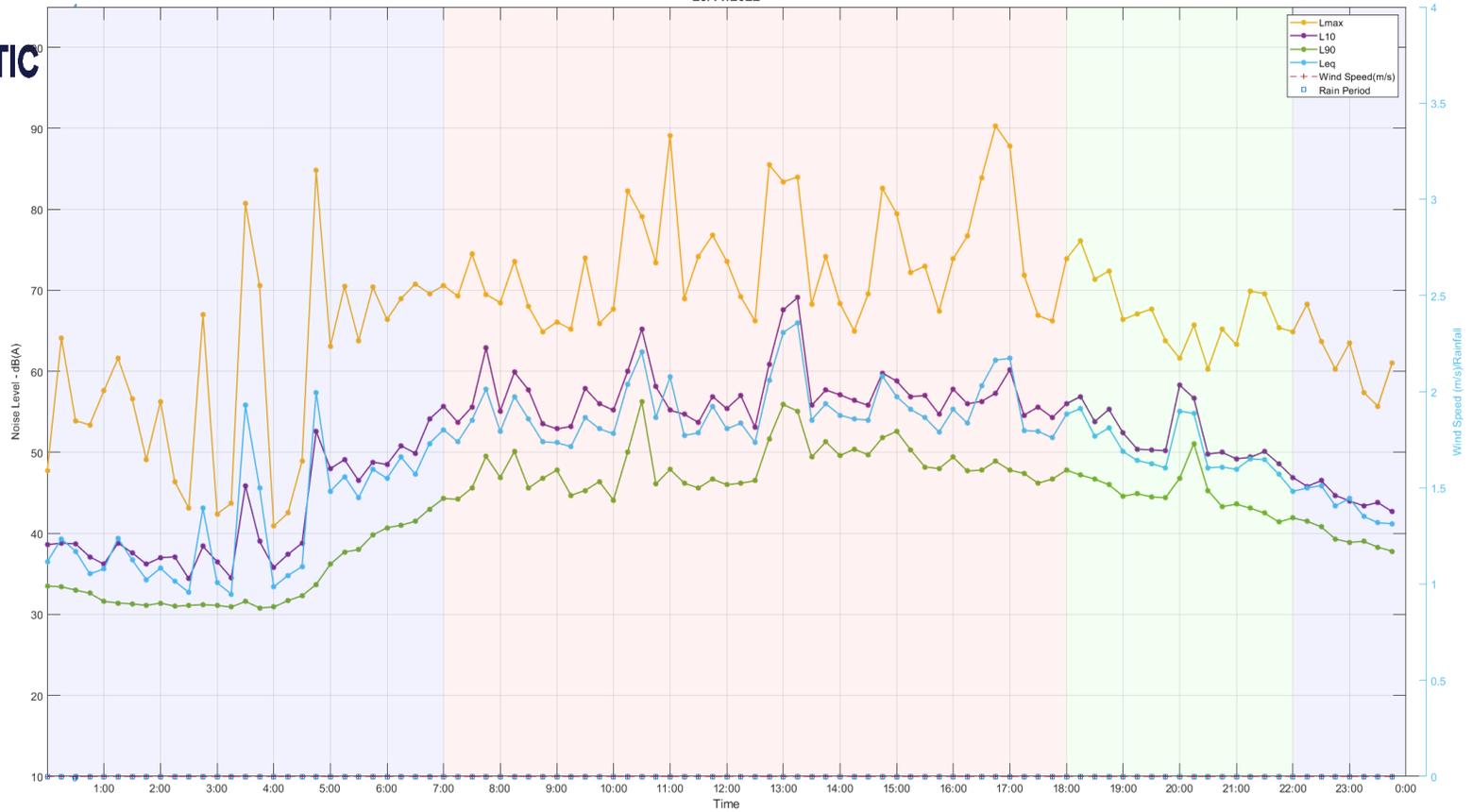


Roseville College N3  
28/11/2022



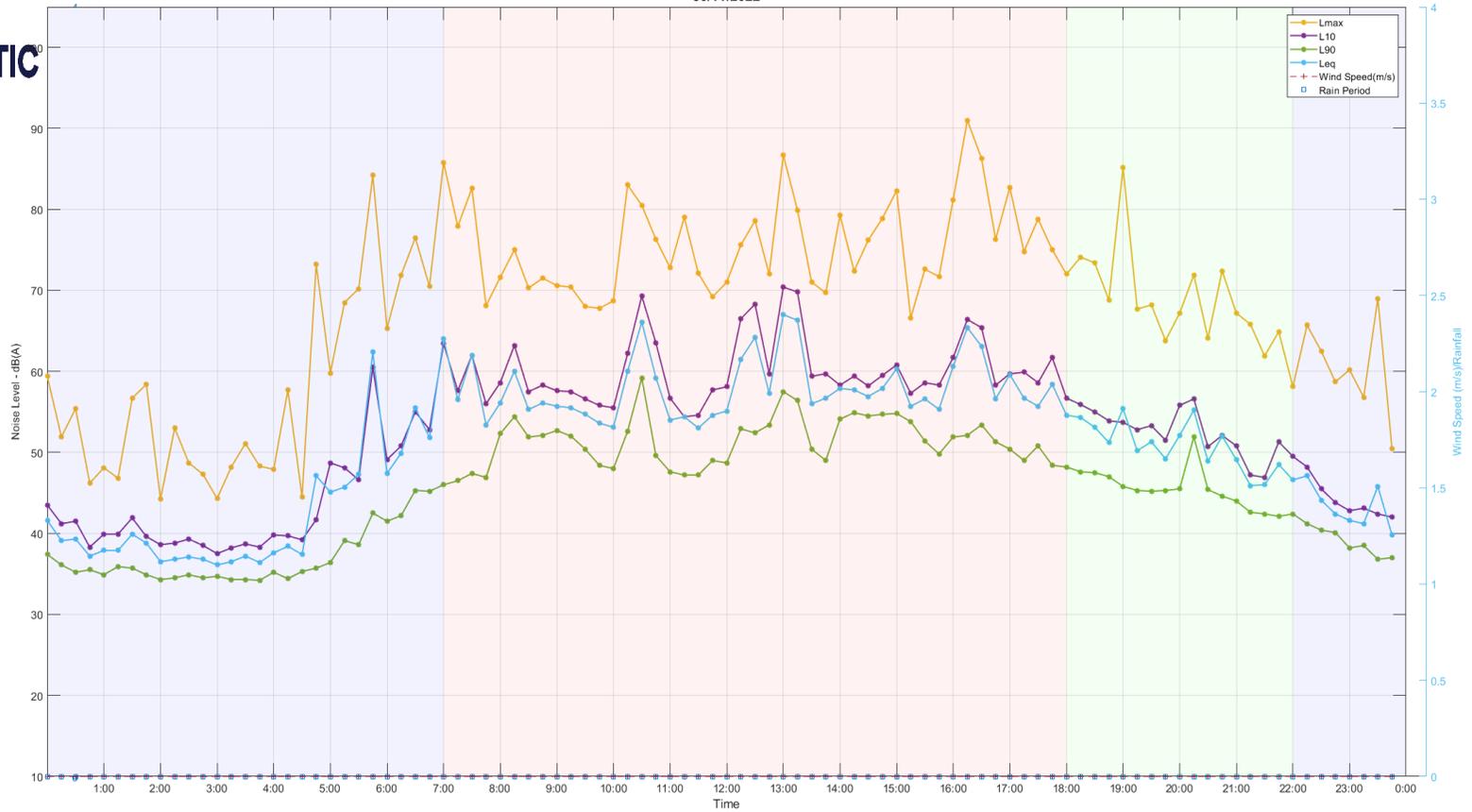


Roseville College N3  
29/11/2022



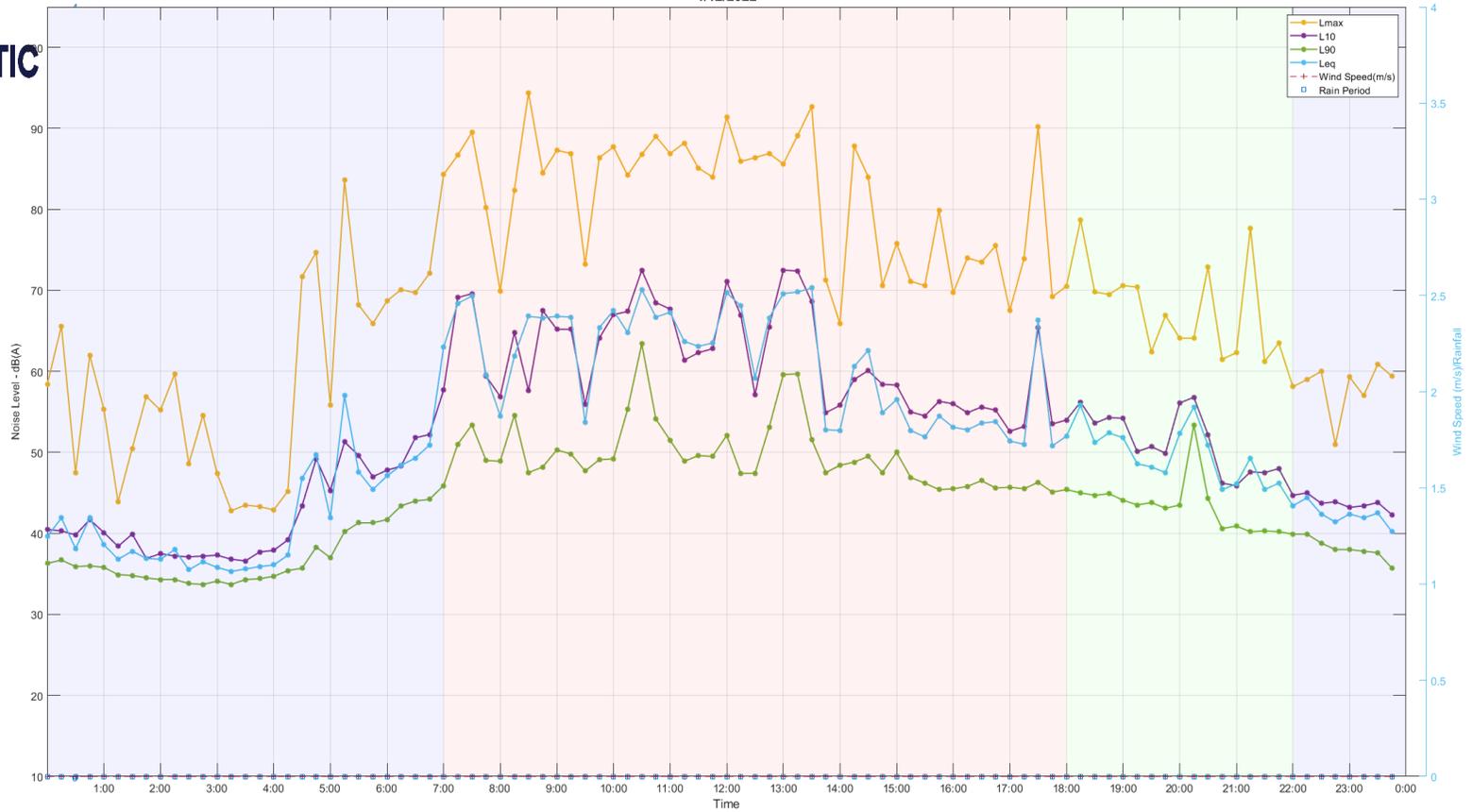


Roseville College N3  
30/11/2022



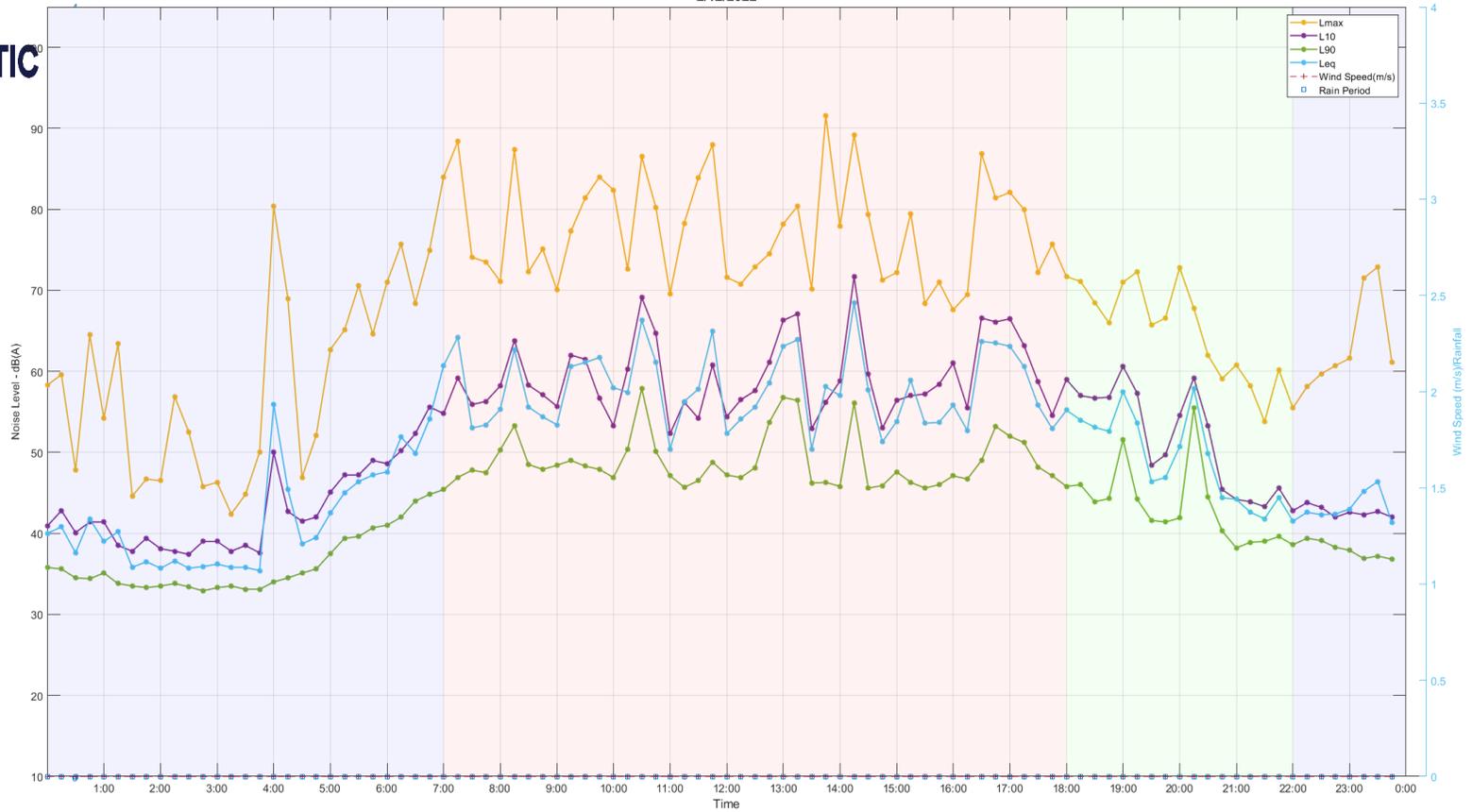


Roseville College N3  
1/12/2022



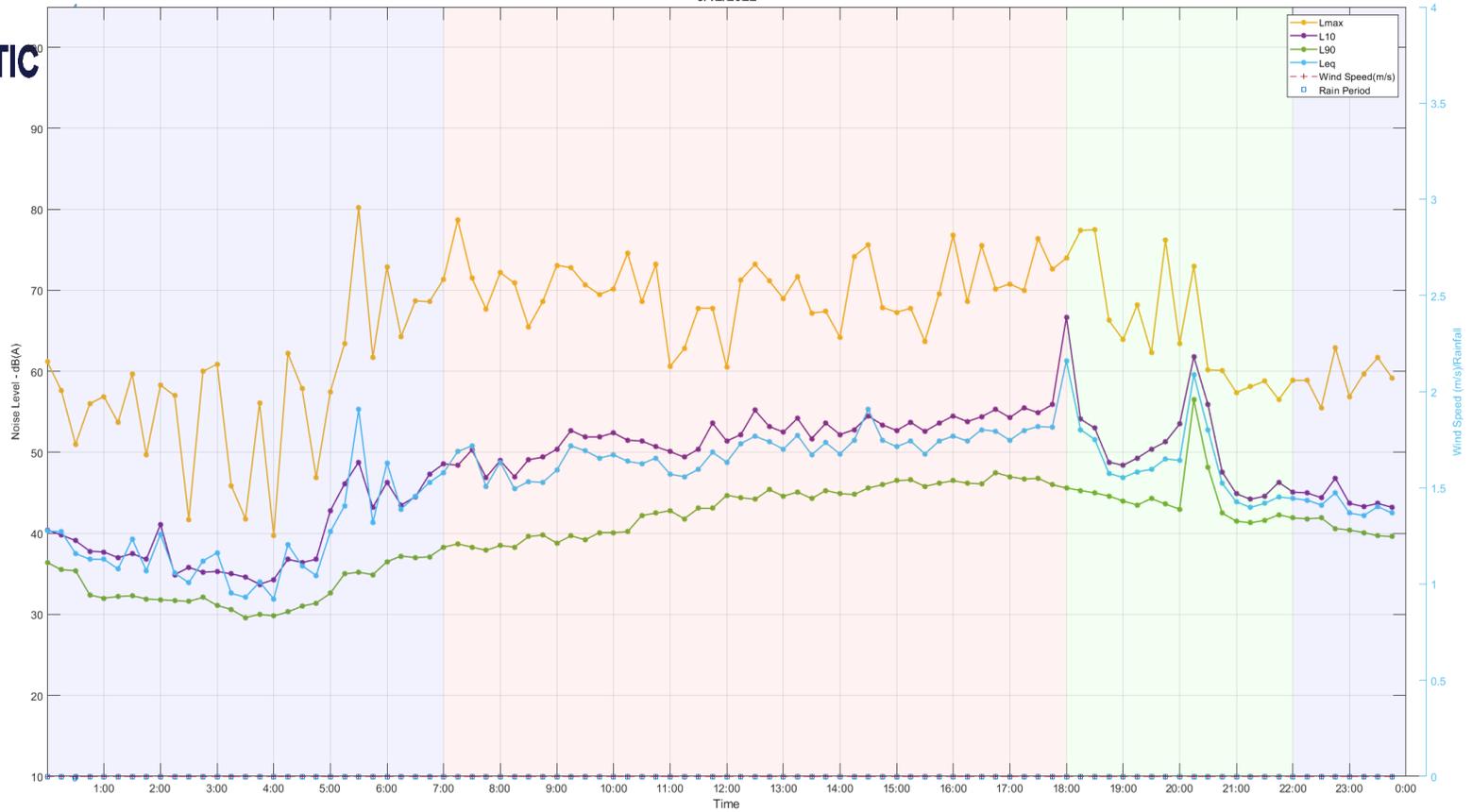


Roseville College N3  
2/12/2022



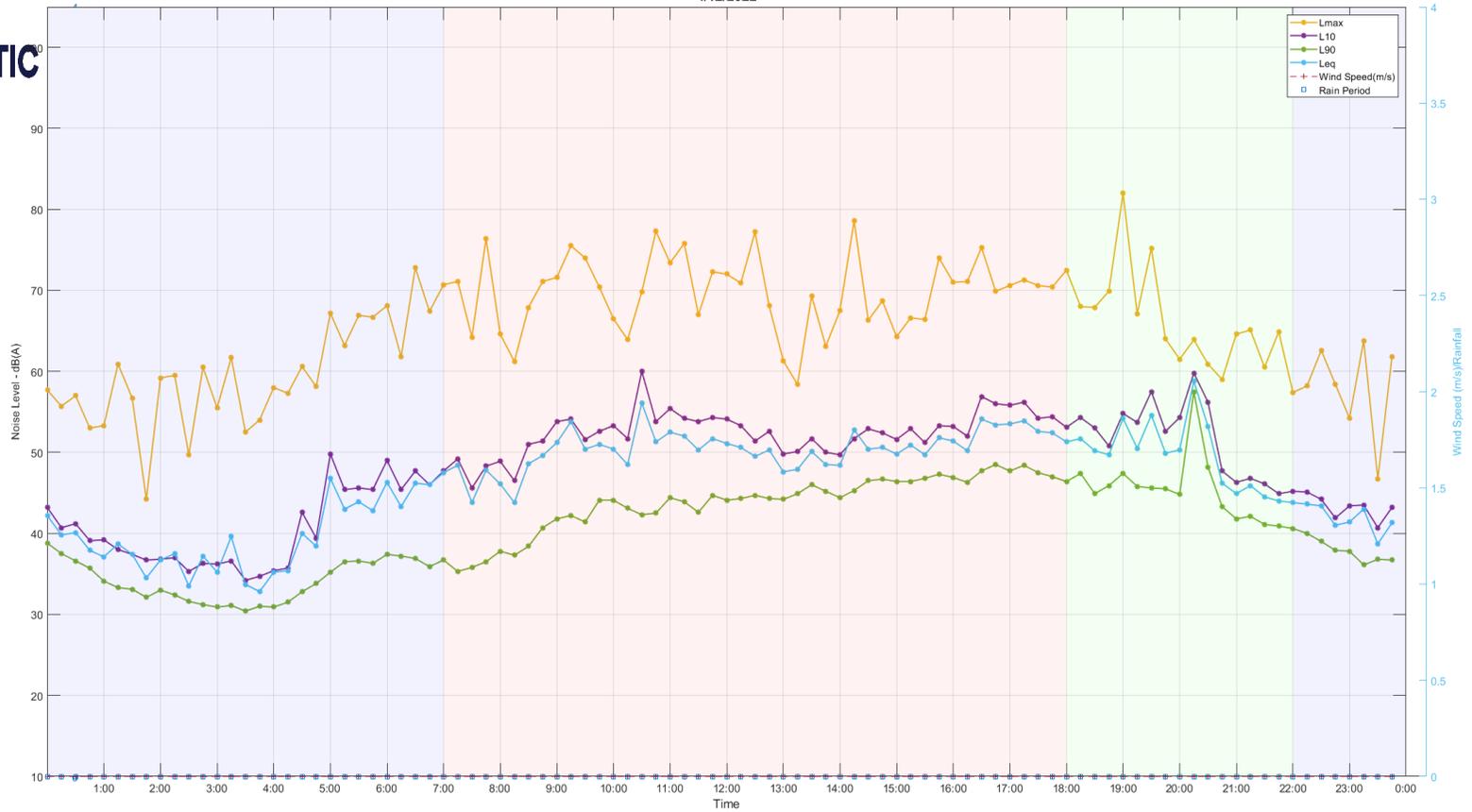


Roseville College N3  
3/12/2022



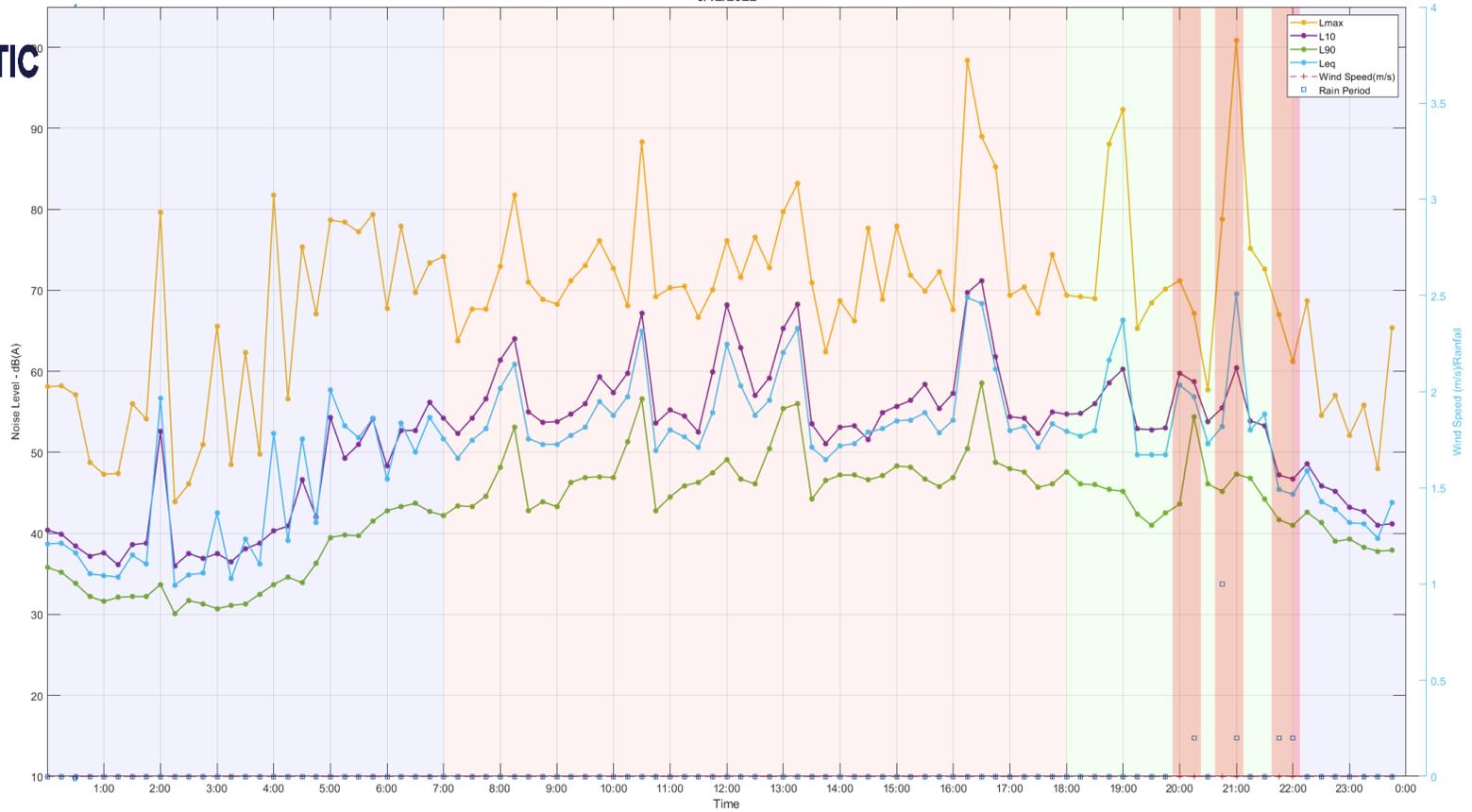


Roseville College N3  
4/12/2022



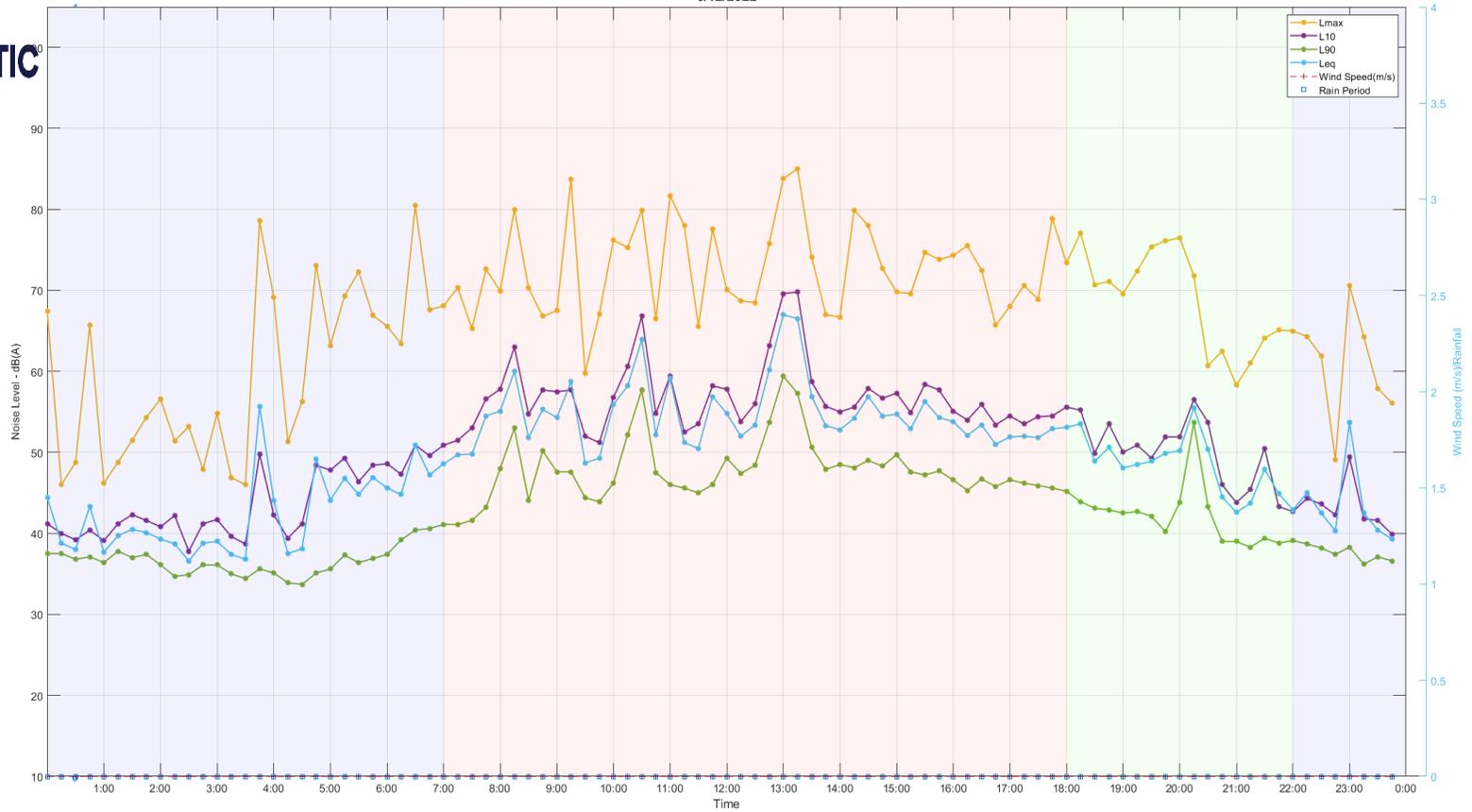


Roseville College N3  
5/12/2022





Roseville College N3  
6/12/2022





Roseville College N3  
7/12/2022

