

**PESIN  
2023**

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**TOMO III**

# **ANEXO VI**

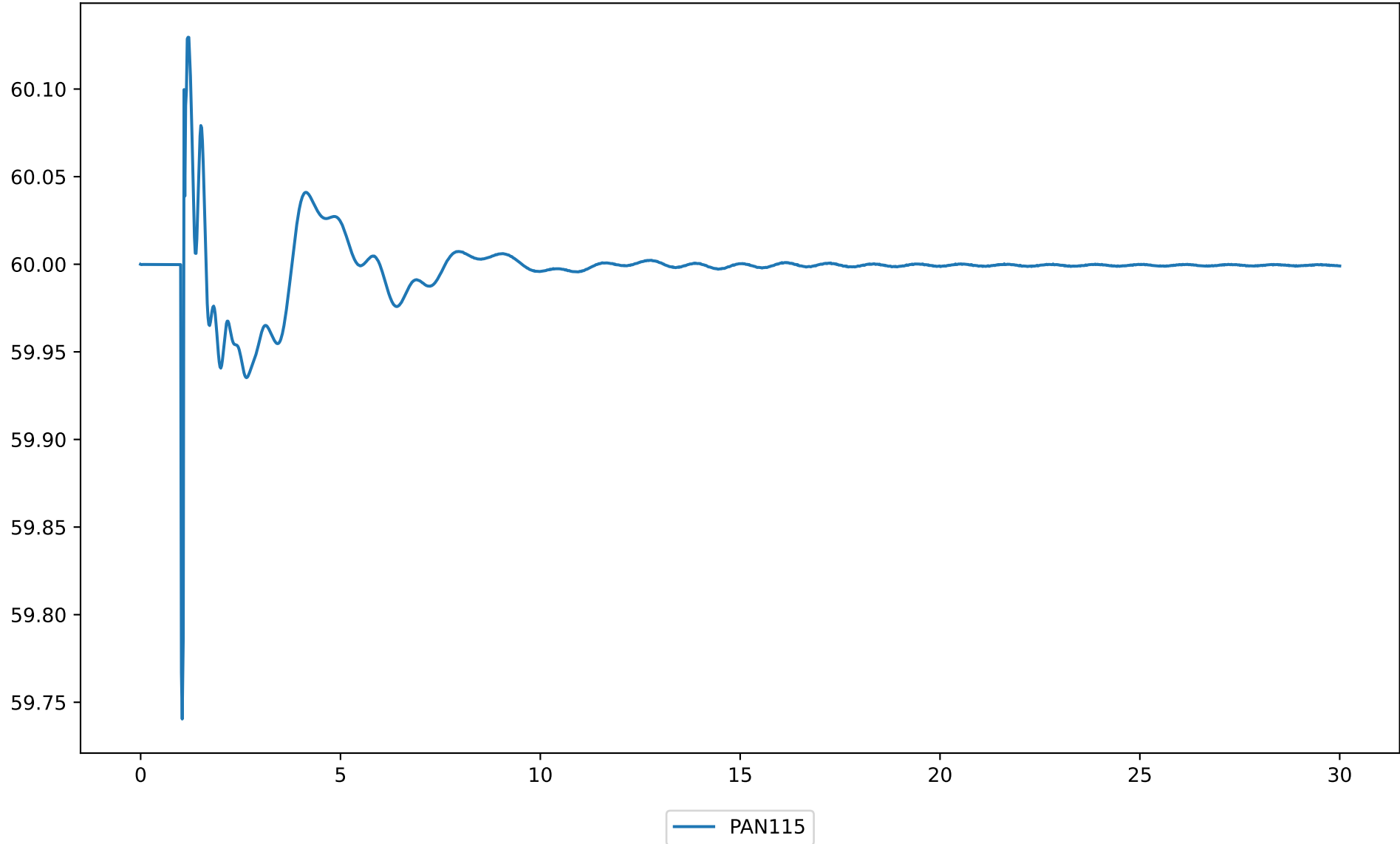
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**ANÁLISIS DINÁMICO  
CORTO PLAZO**

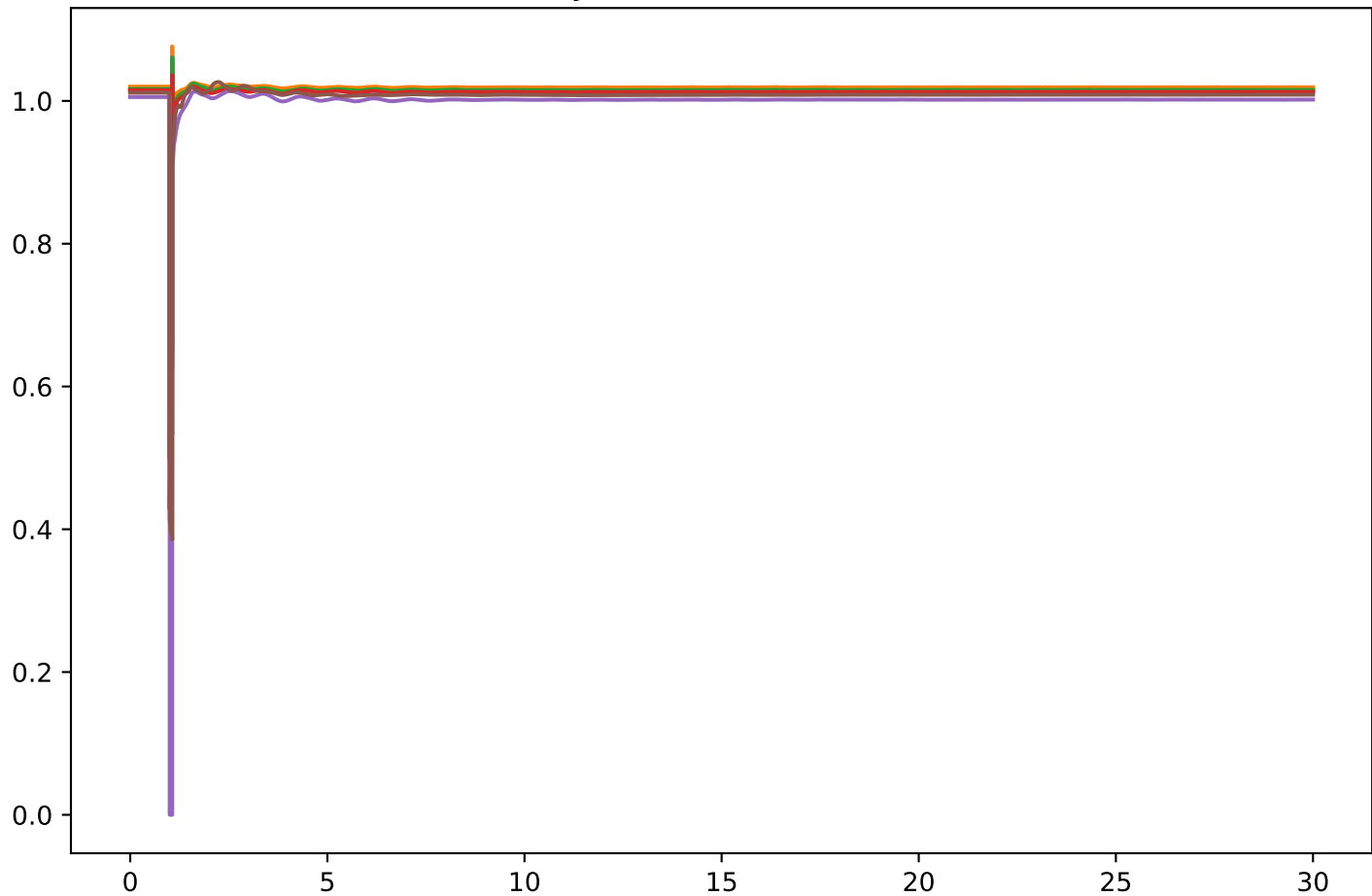
**2023 LLUVIOSA**

Caso: 523-4-2023CA\_ModMax\_Lluv - Contingencia: 6011-6380-9A-C1\_MDN-BOQ3

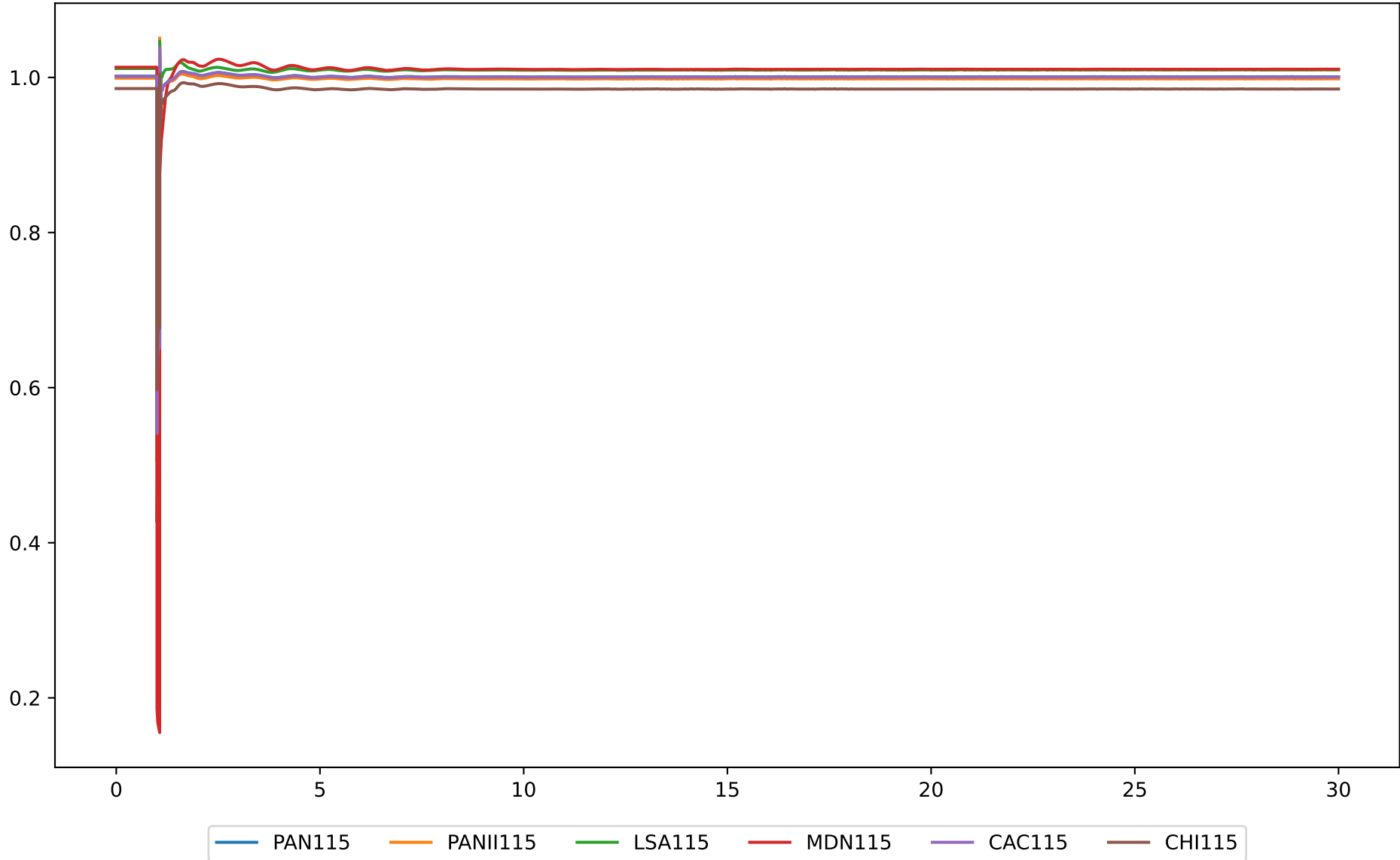
### Frecuencia (Hz)



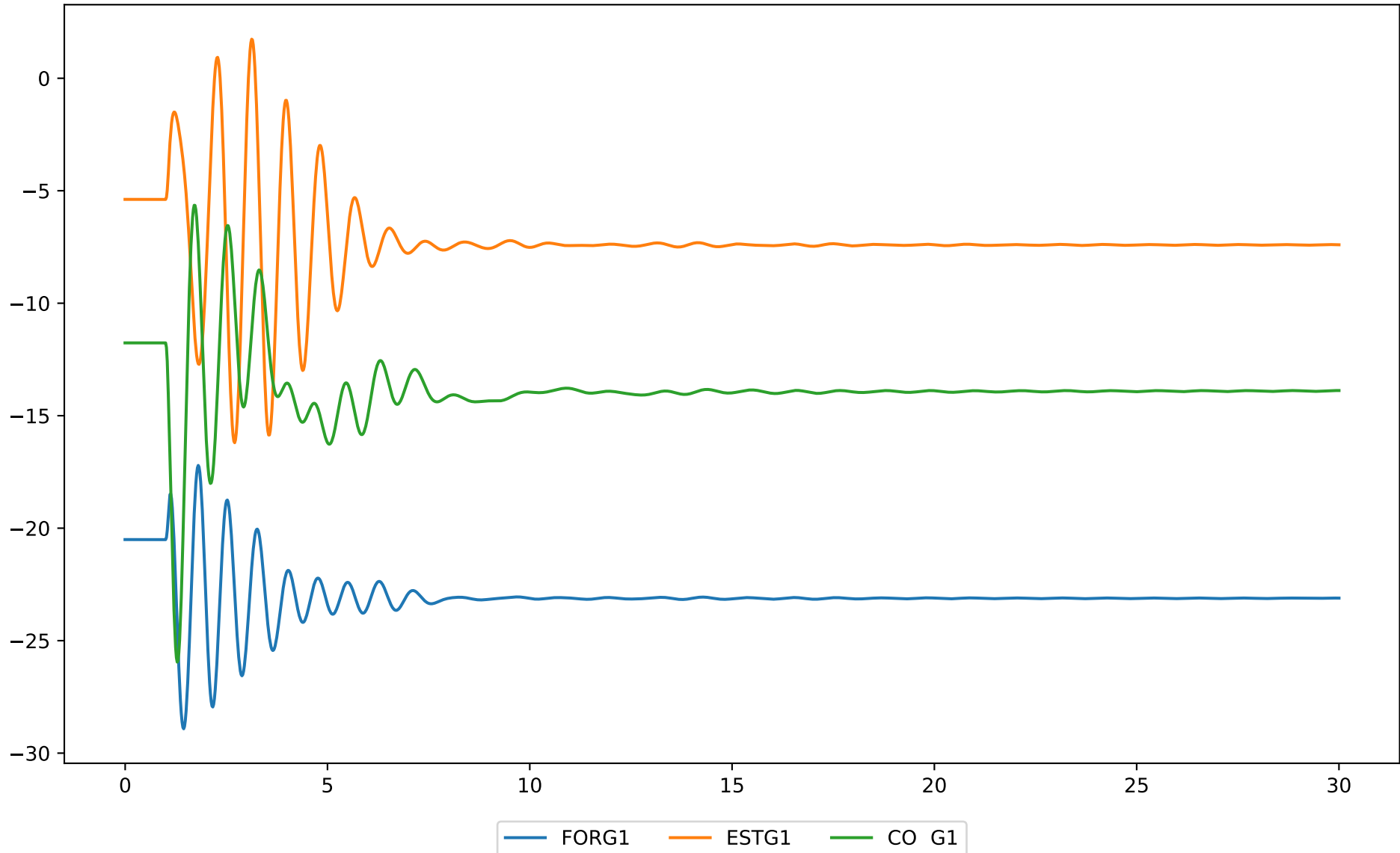
# Voltajes 230kV - Panama



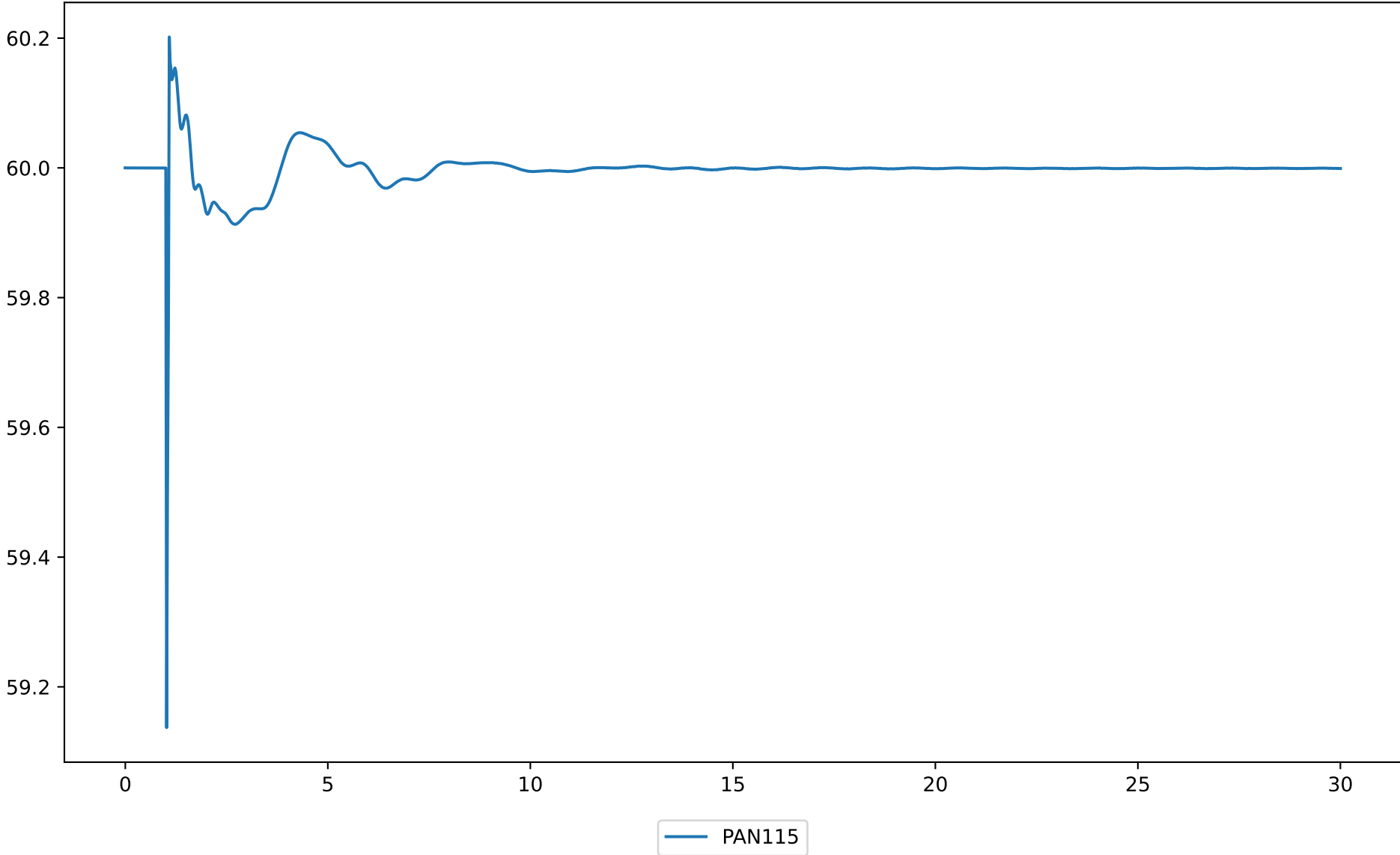
### Voltajes 115kV - Panama



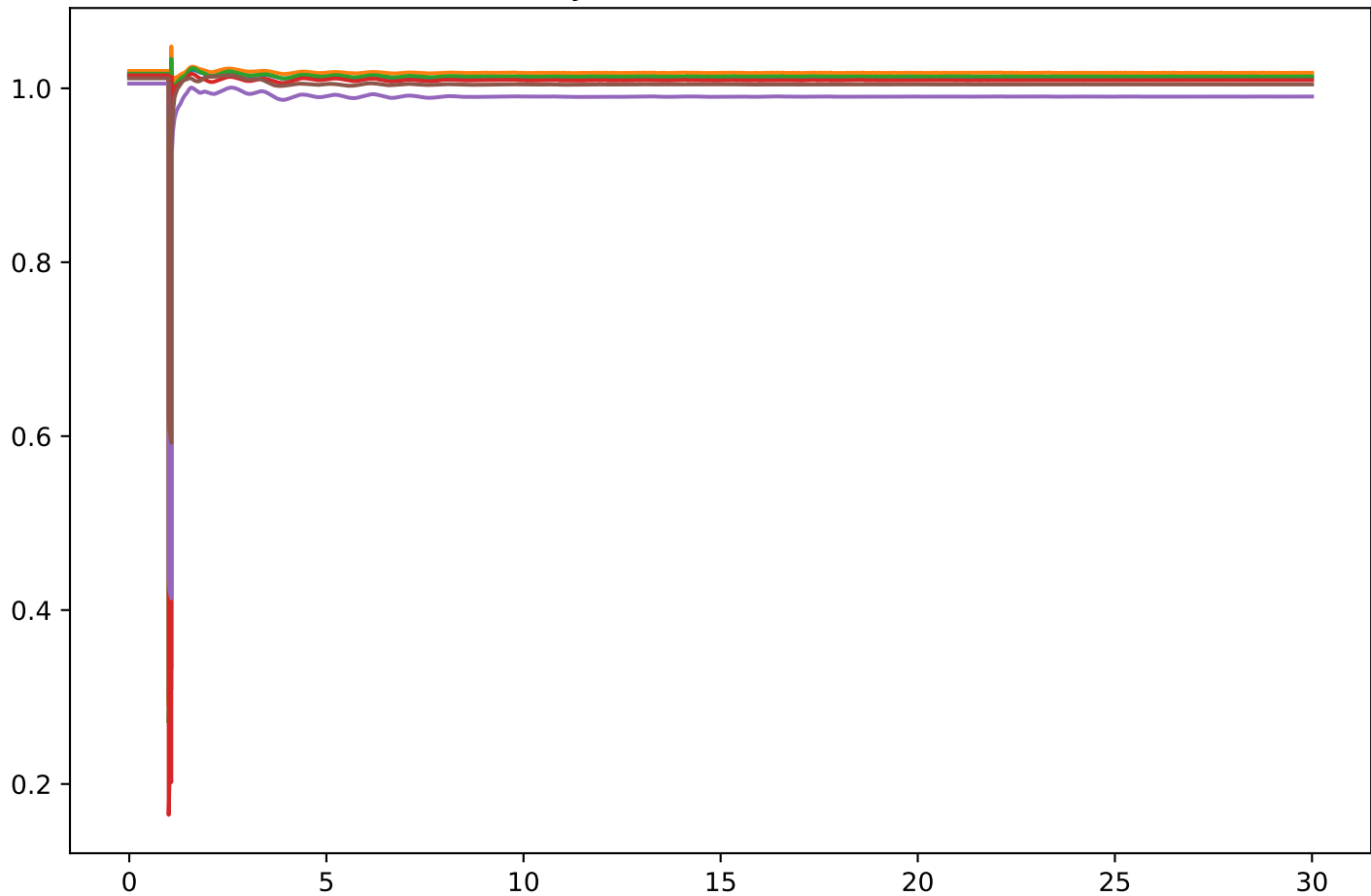
### Angulos de Rotacion de Maquinas - Panama



### Frecuencia (Hz)



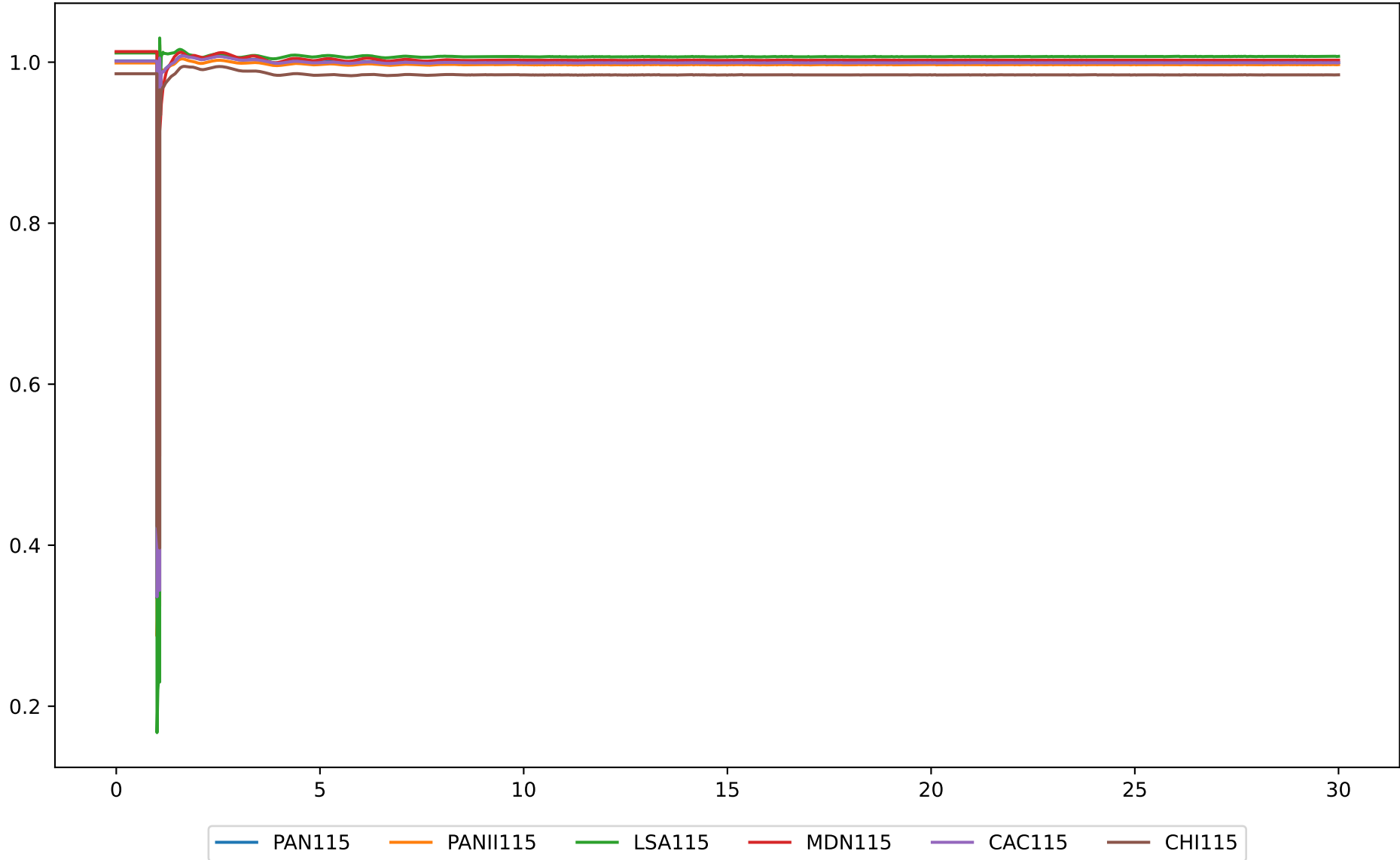
# Voltajes 230kV - Panama



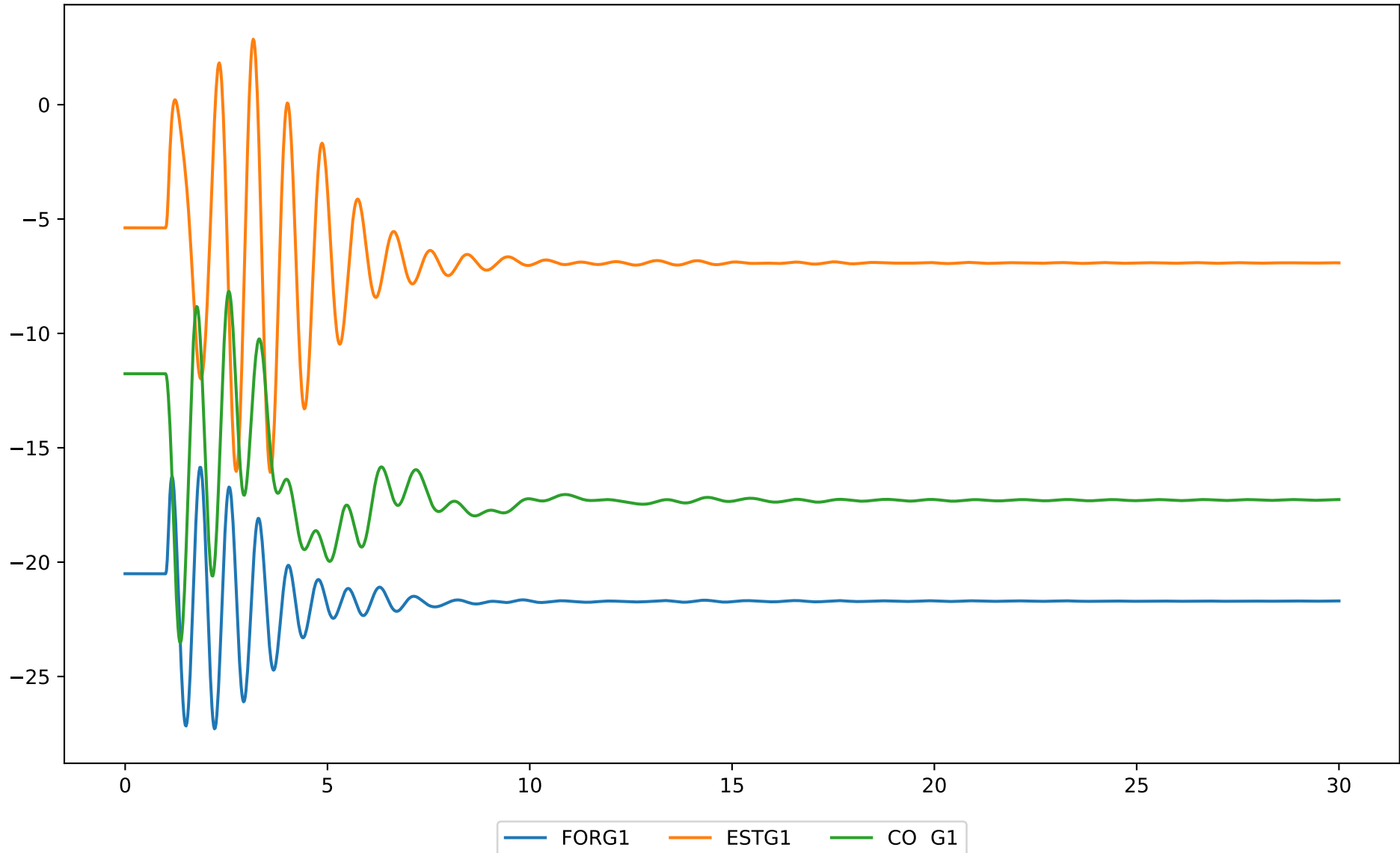
PAN230    PANII230    CHO230    LSA230    MDN230    PRO230



### Voltajes 115kV - Panama

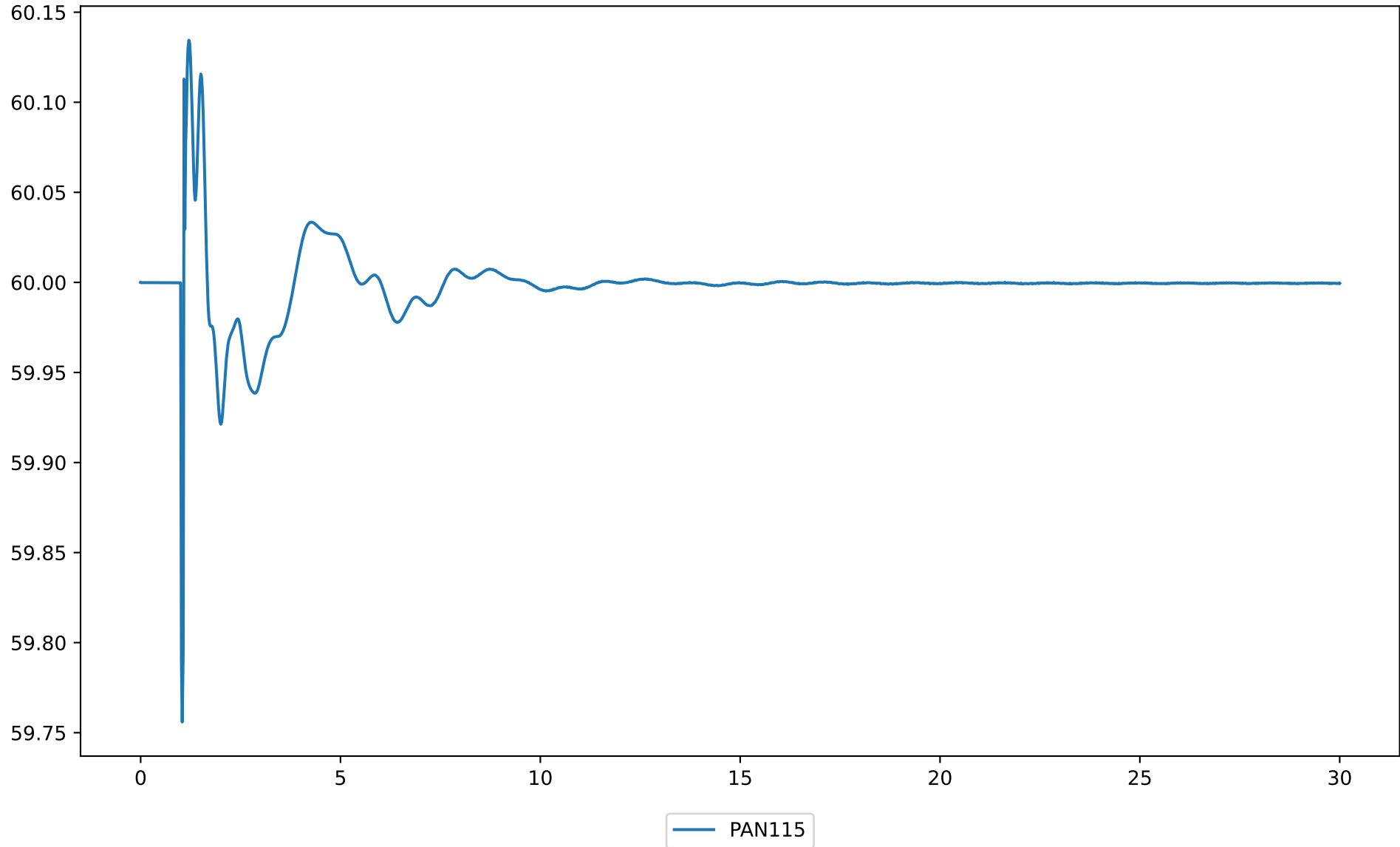


### Angulos de Rotacion de Maquinas - Panama

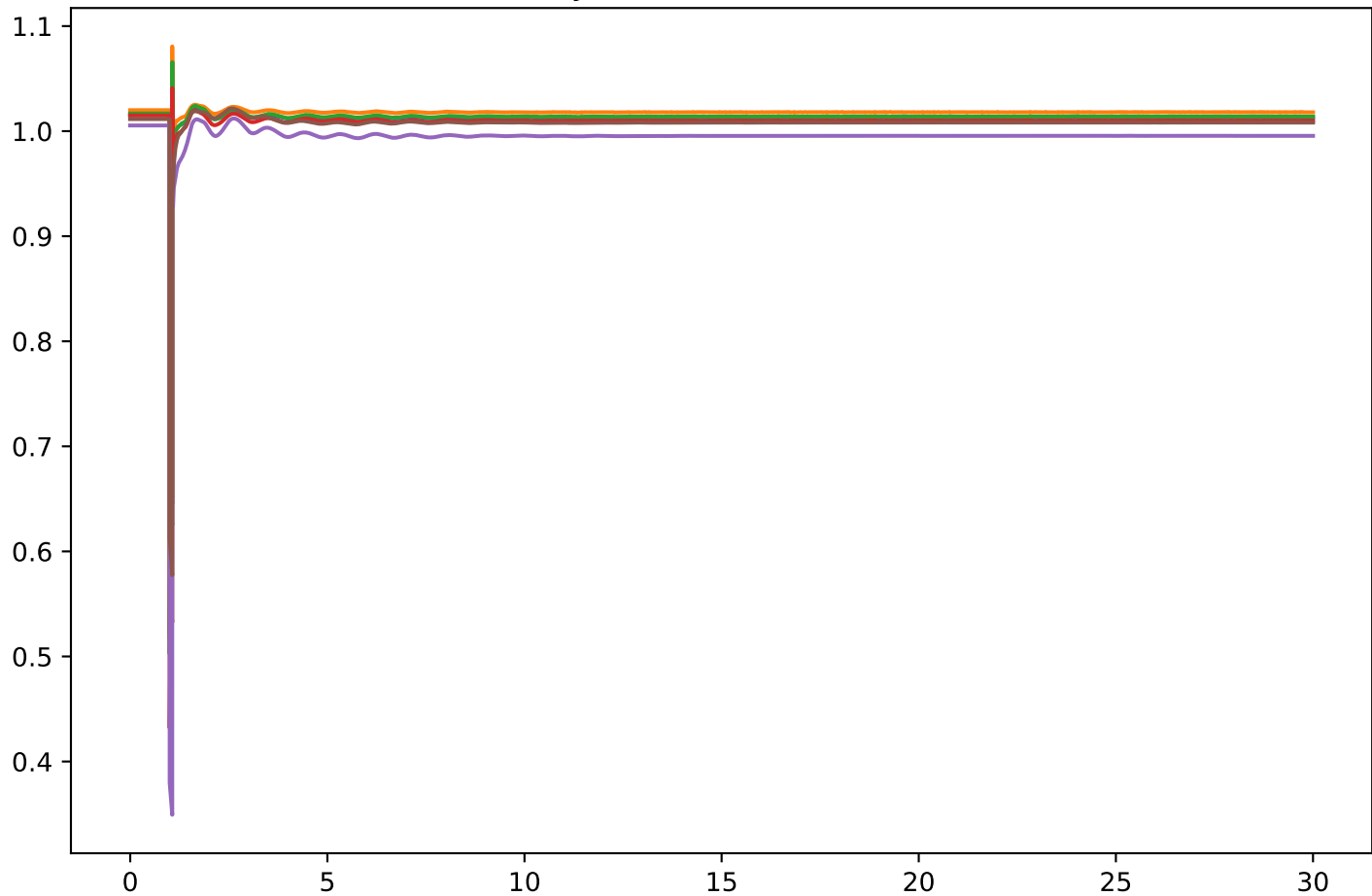


Caso: 523-4-2023CA\_ModMax\_Lluv - Contingencia: 6179-6182-16-C3\_GUA-VEL

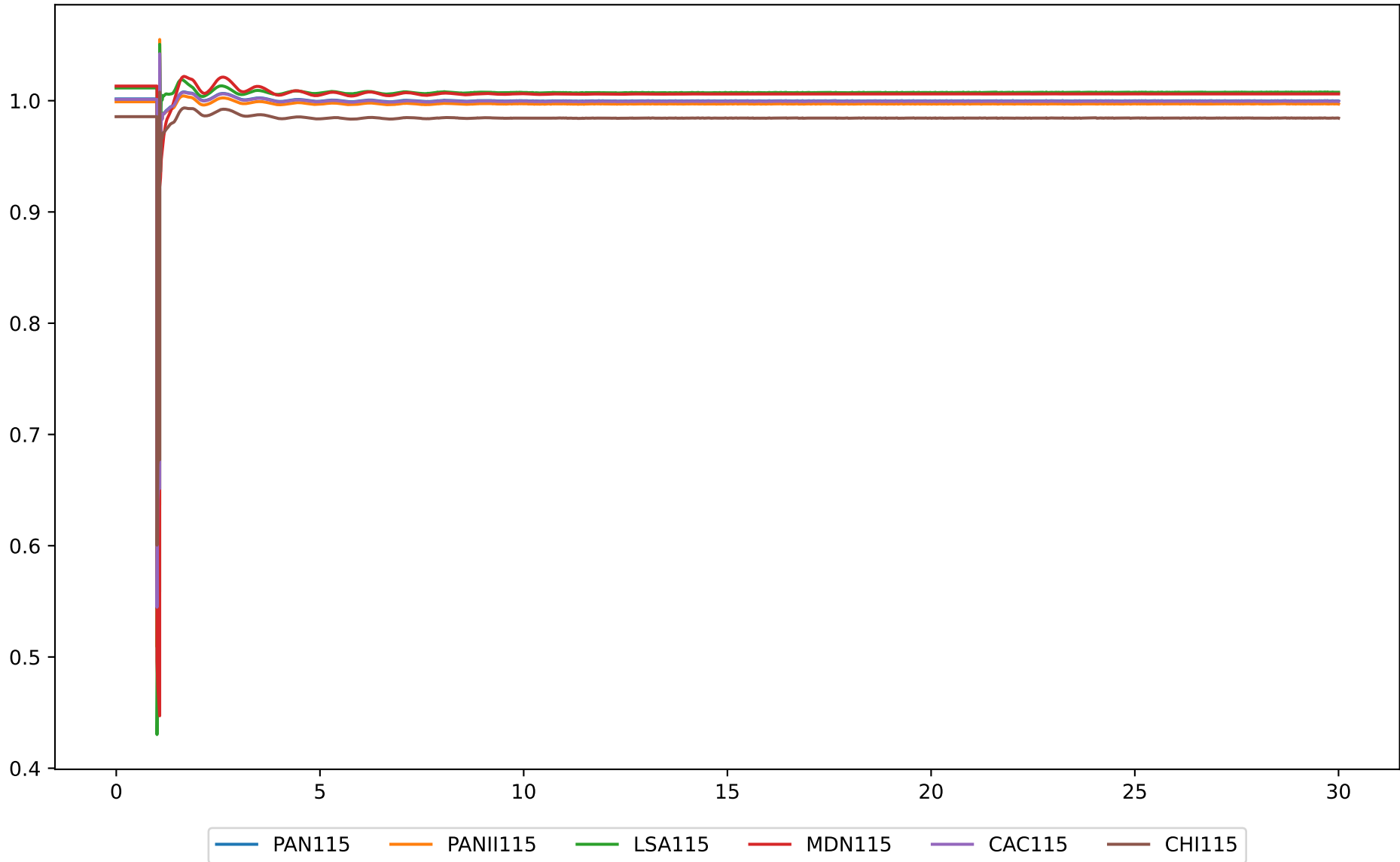
### Frecuencia (Hz)



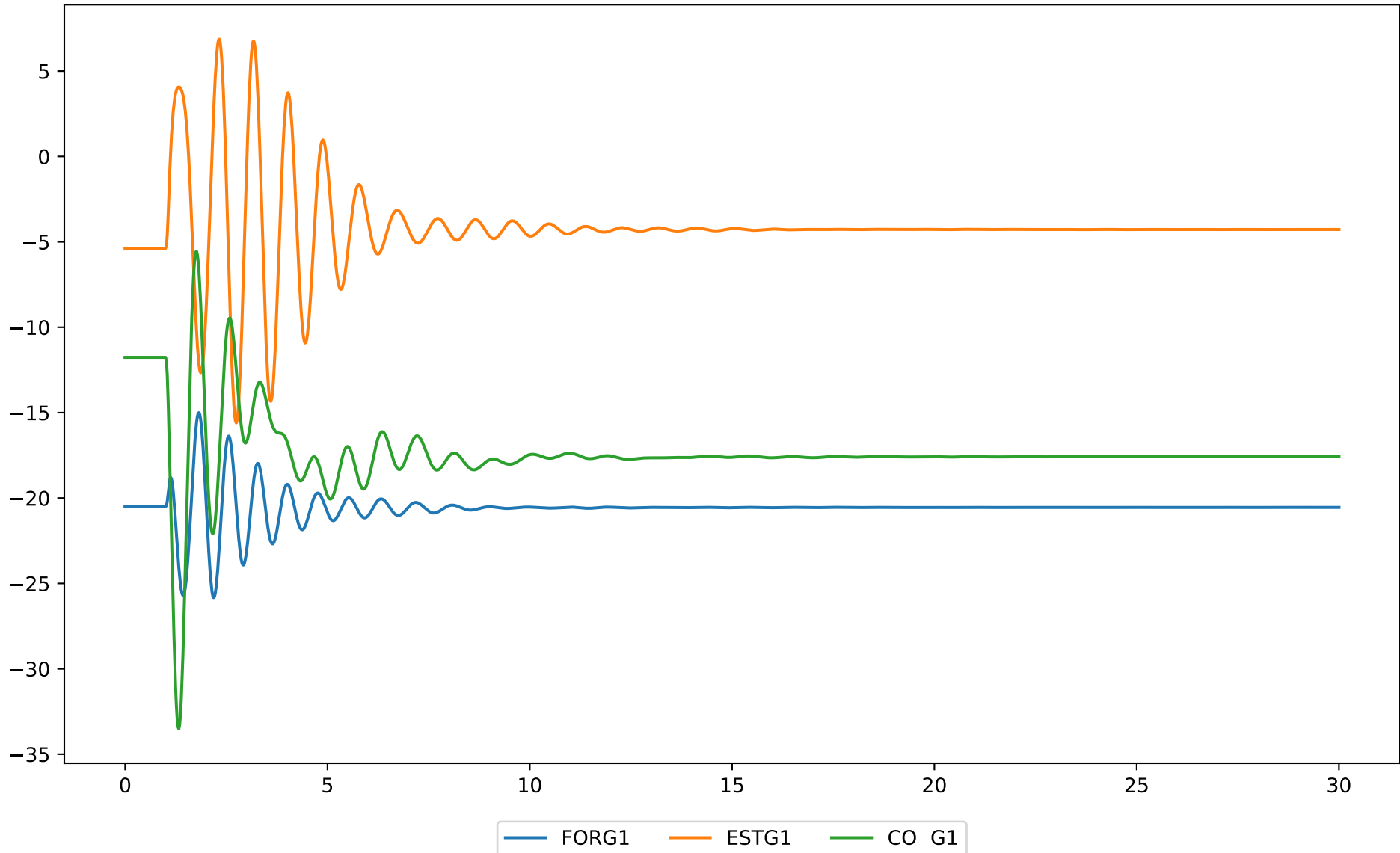
# Voltajes 230kV - Panama



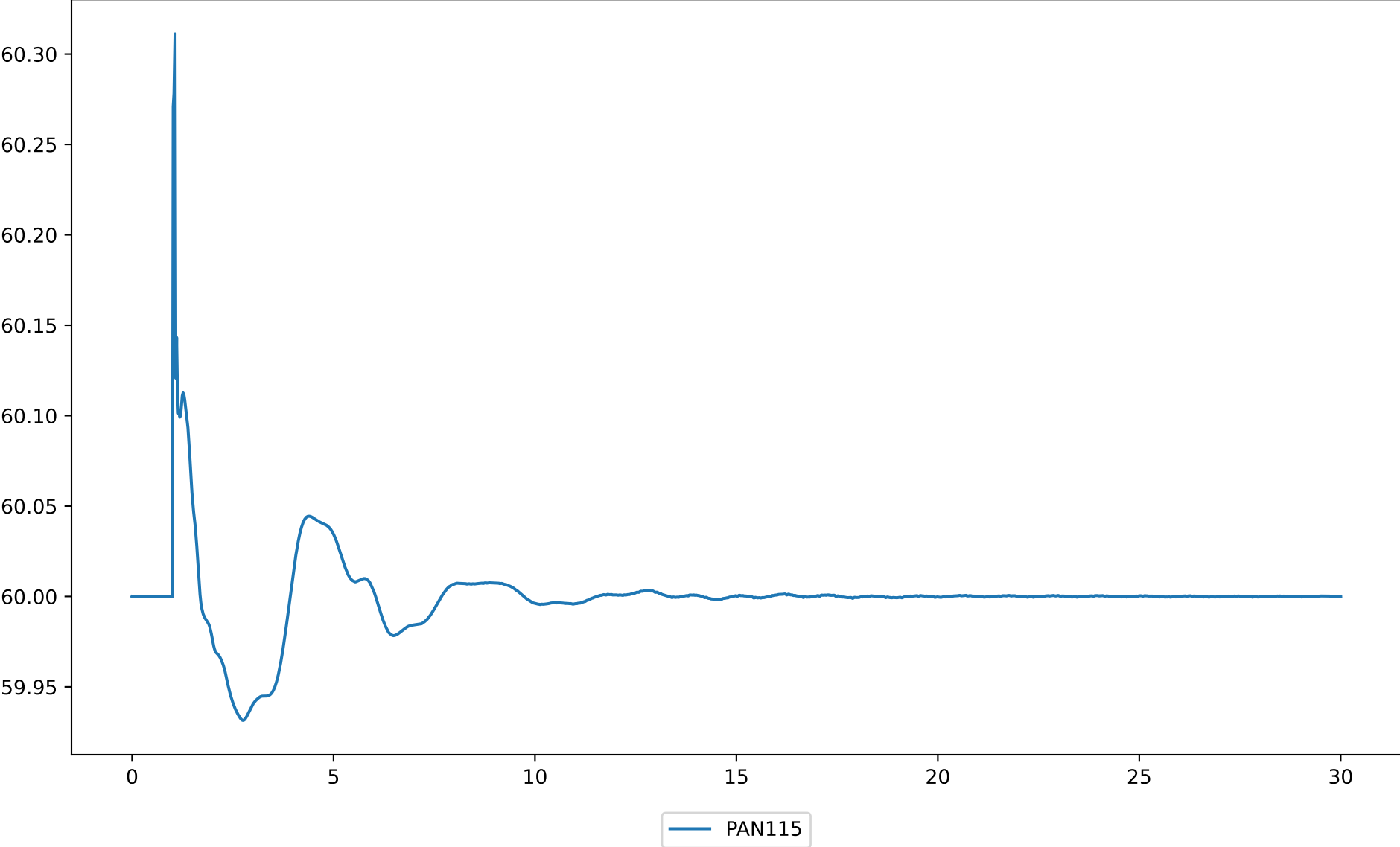
### Voltajes 115kV - Panama



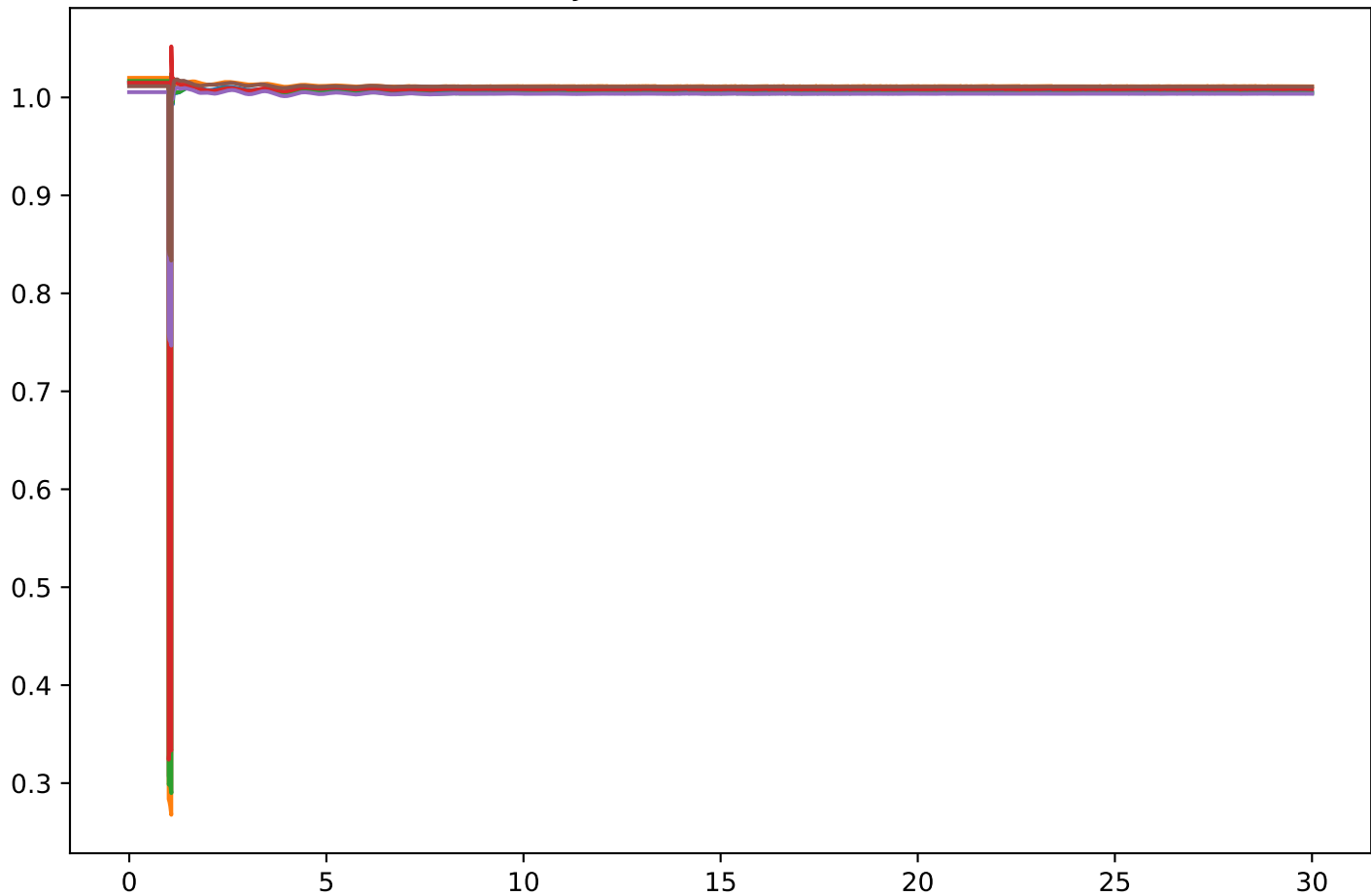
### Angulos de Rotacion de Maquinas - Panama



### Frecuencia (Hz)

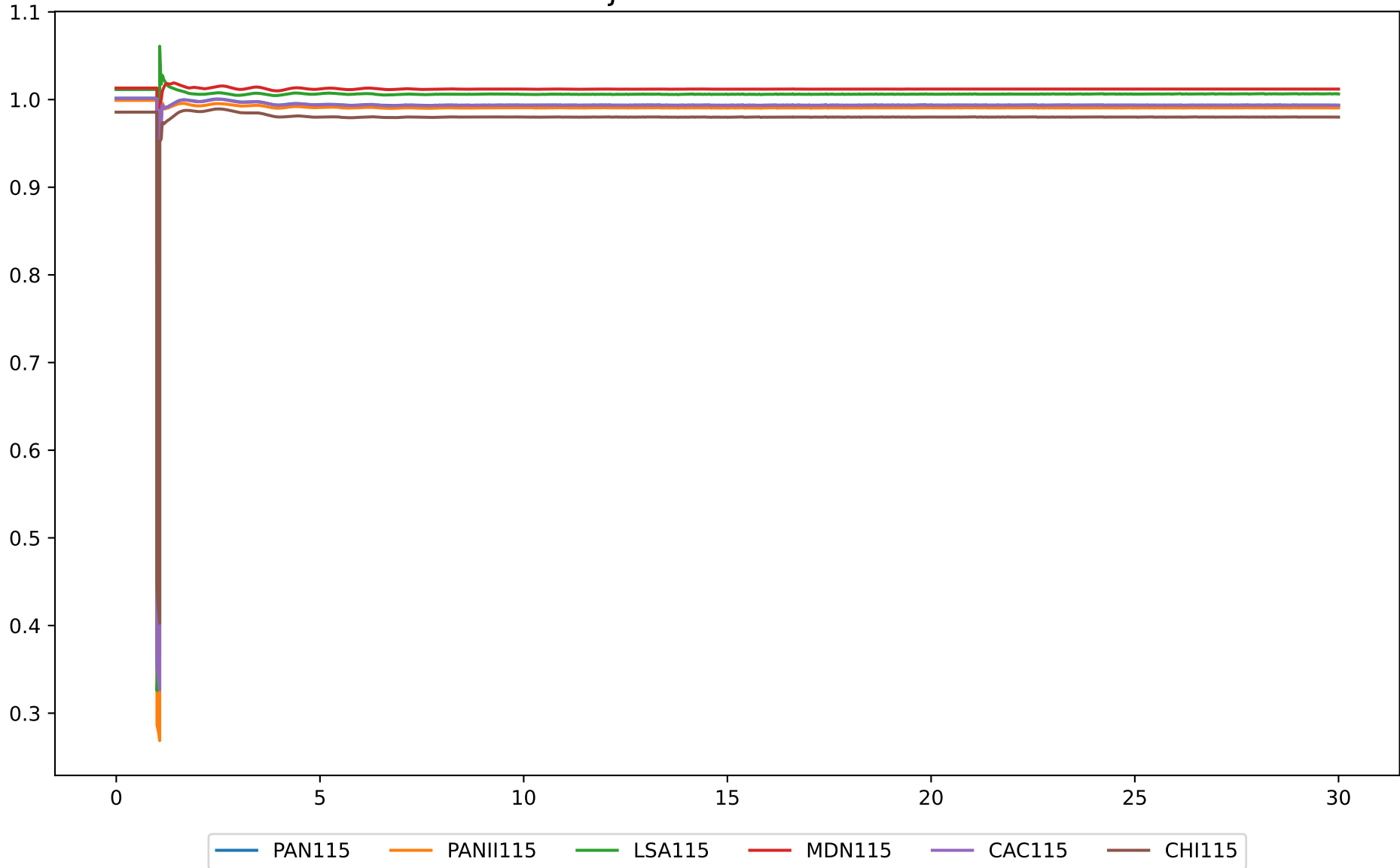


# Voltajes 230kV - Panama

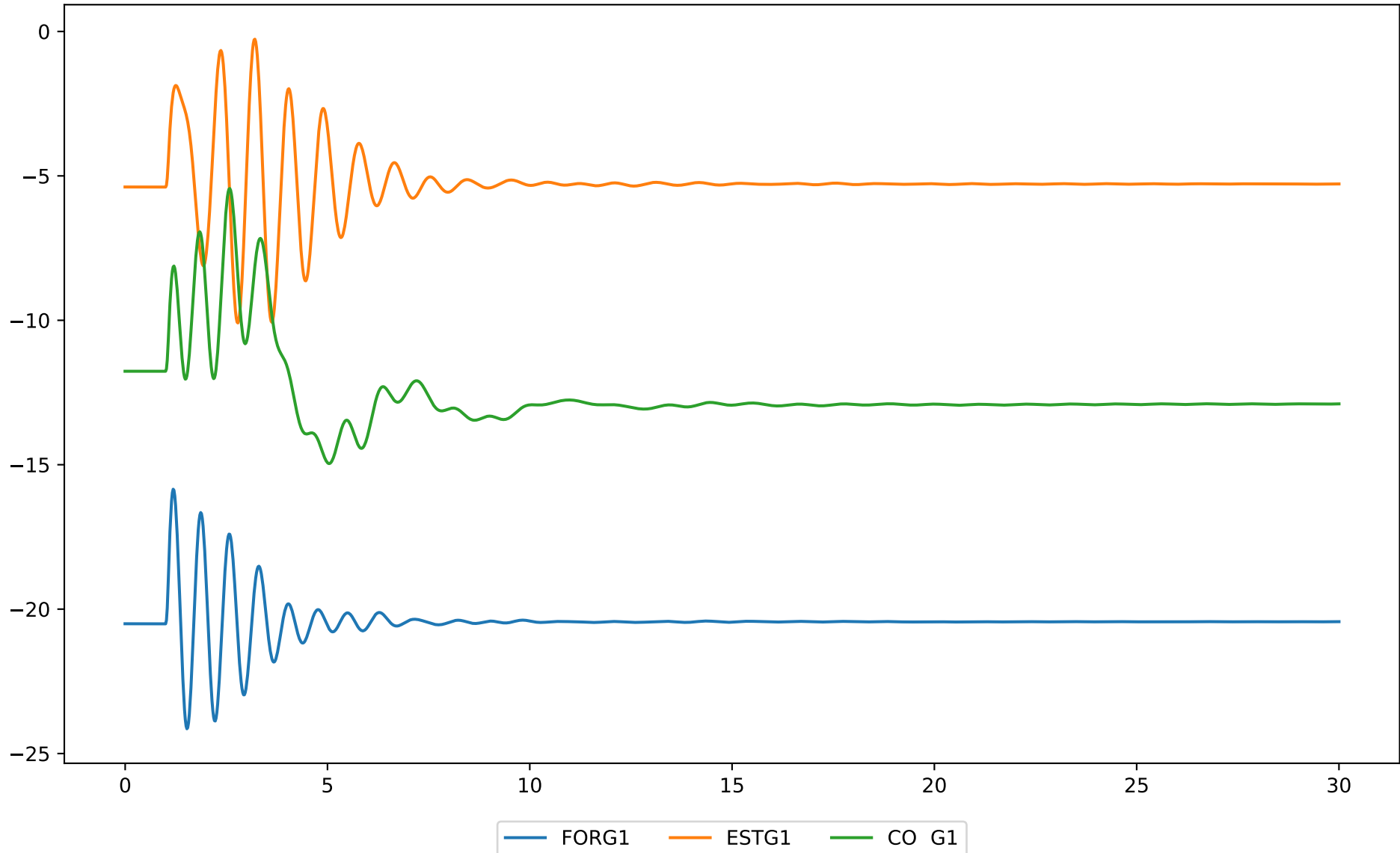




### Voltajes 115kV - Panama

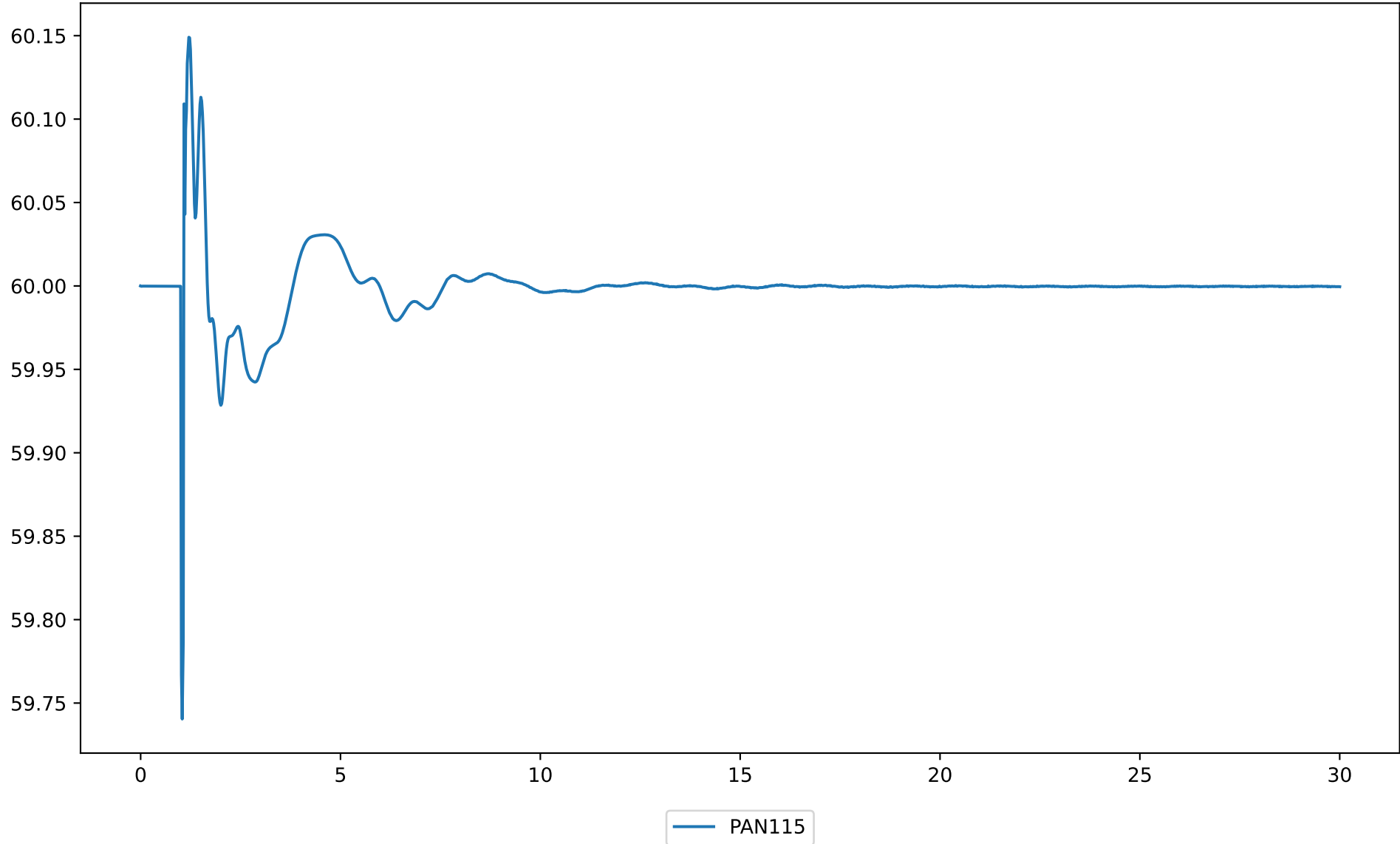


### Angulos de Rotacion de Maquinas - Panama

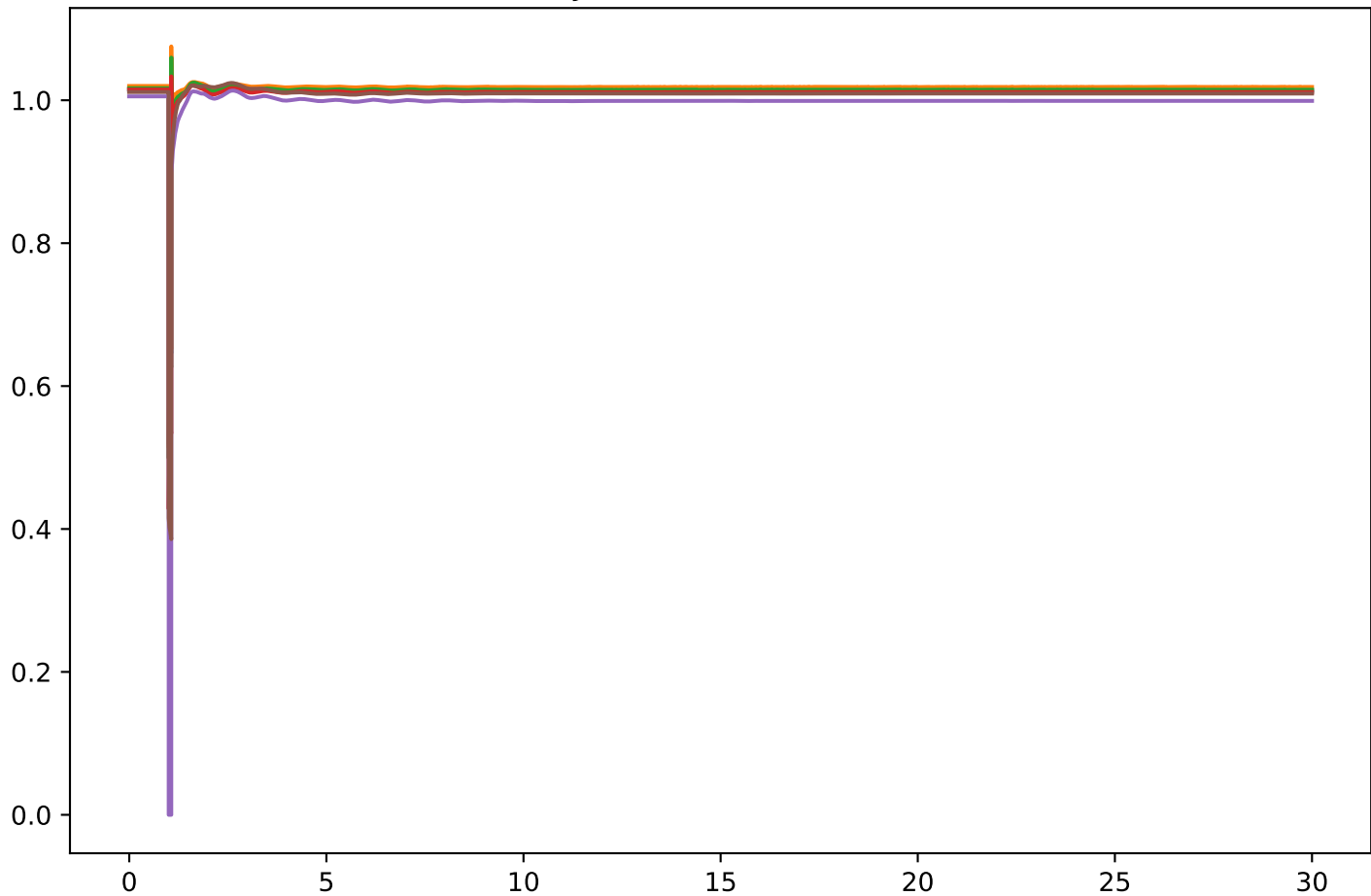


Caso: 523-4-2023CA\_ModMax\_Lluv - Contingencia: 6011-6182-5B-C5\_MDN-VEL

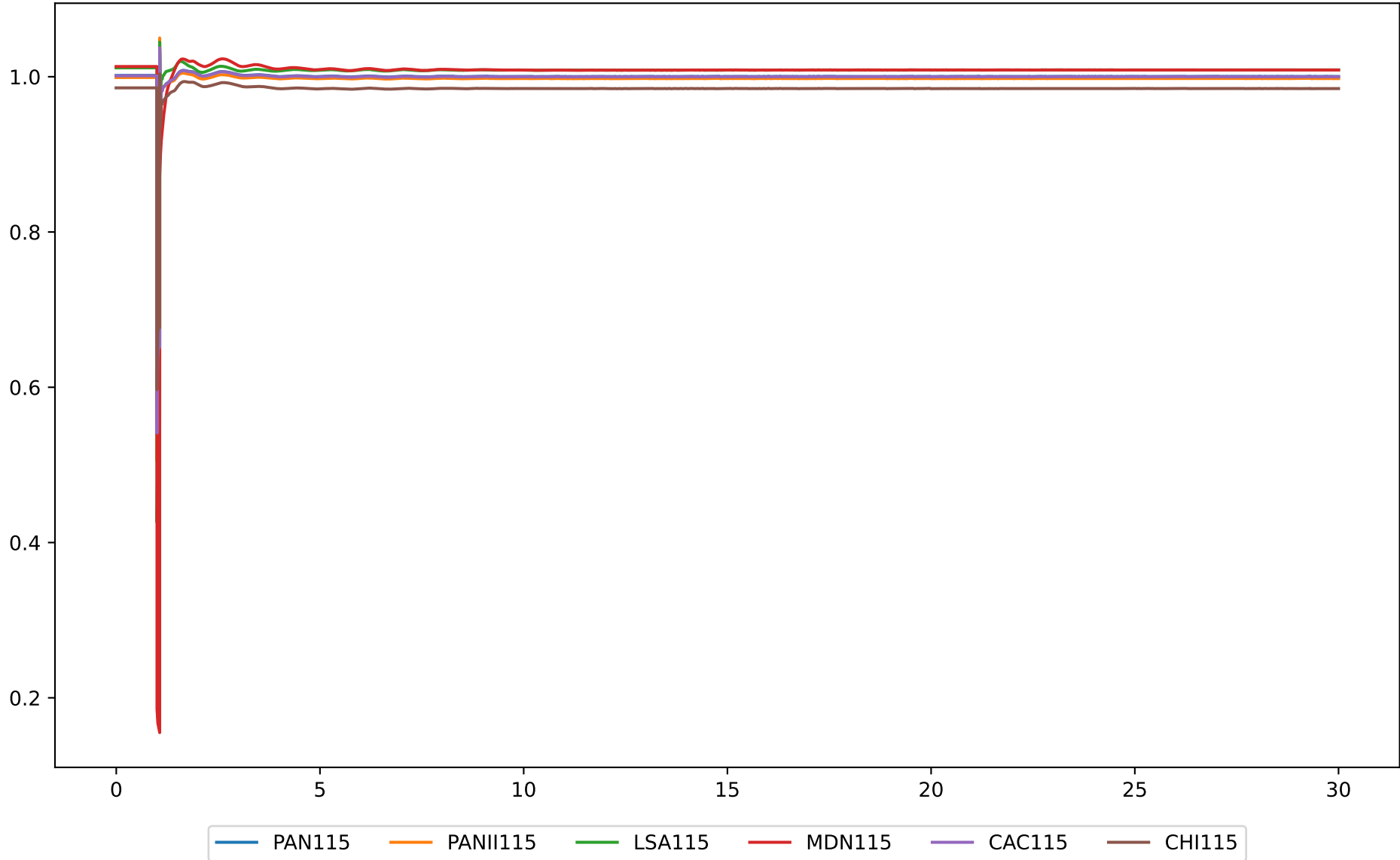
## Frecuencia (Hz)



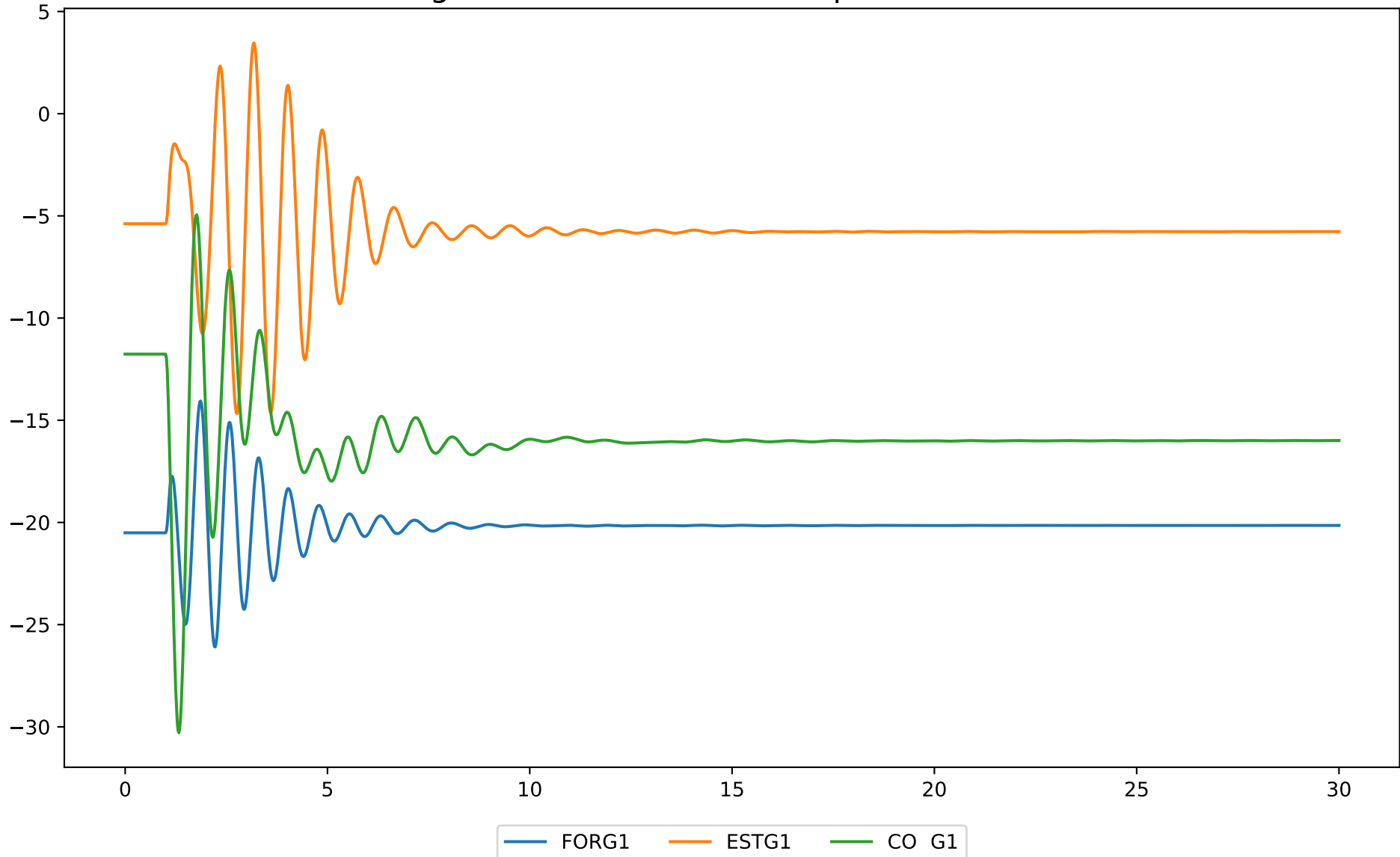
# Voltajes 230kV - Panama



### Voltajes 115kV - Panama

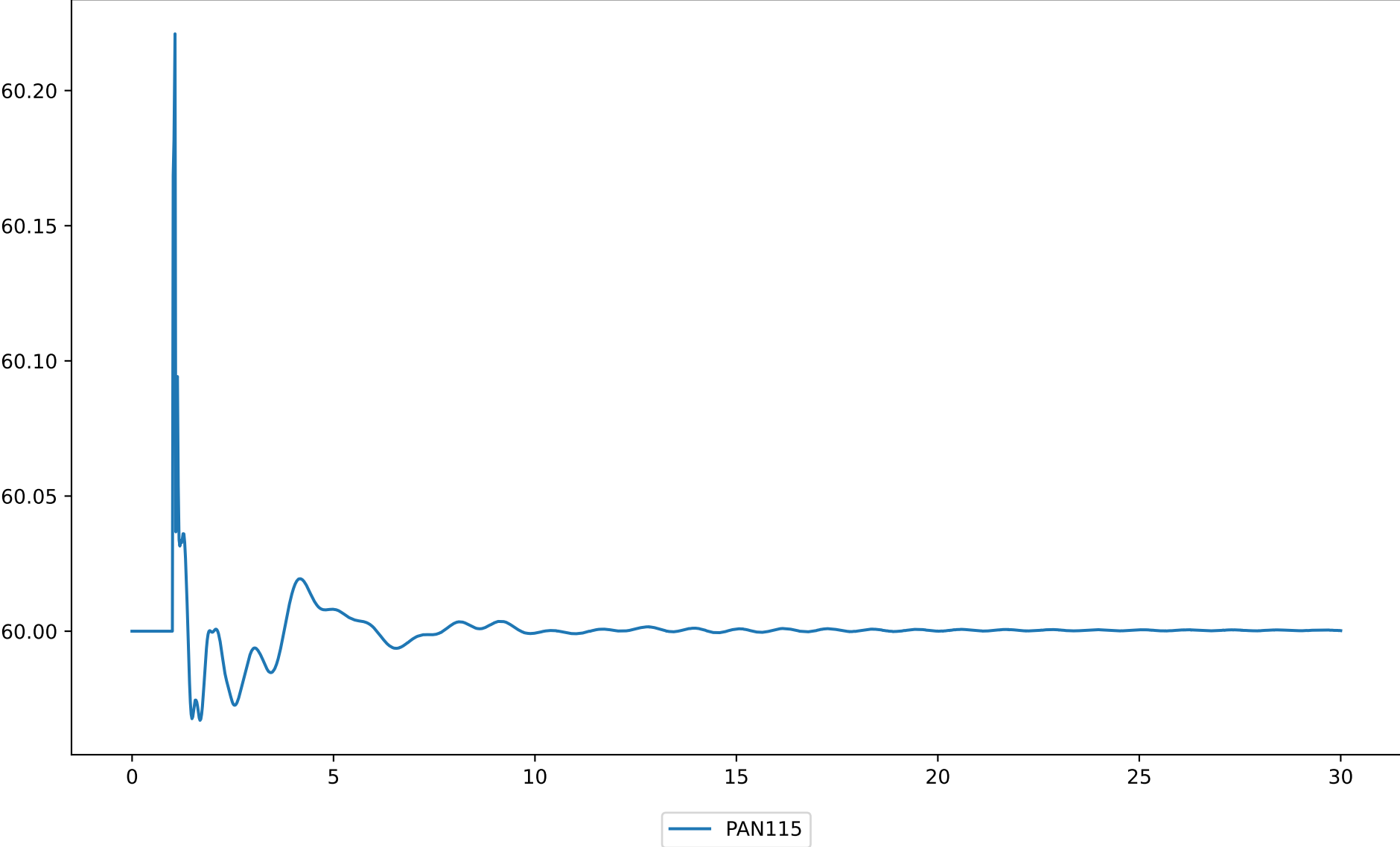


### Angulos de Rotacion de Maquinas - Panama



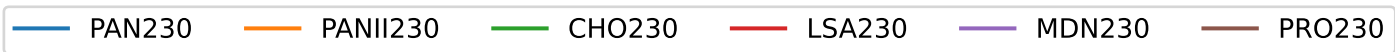
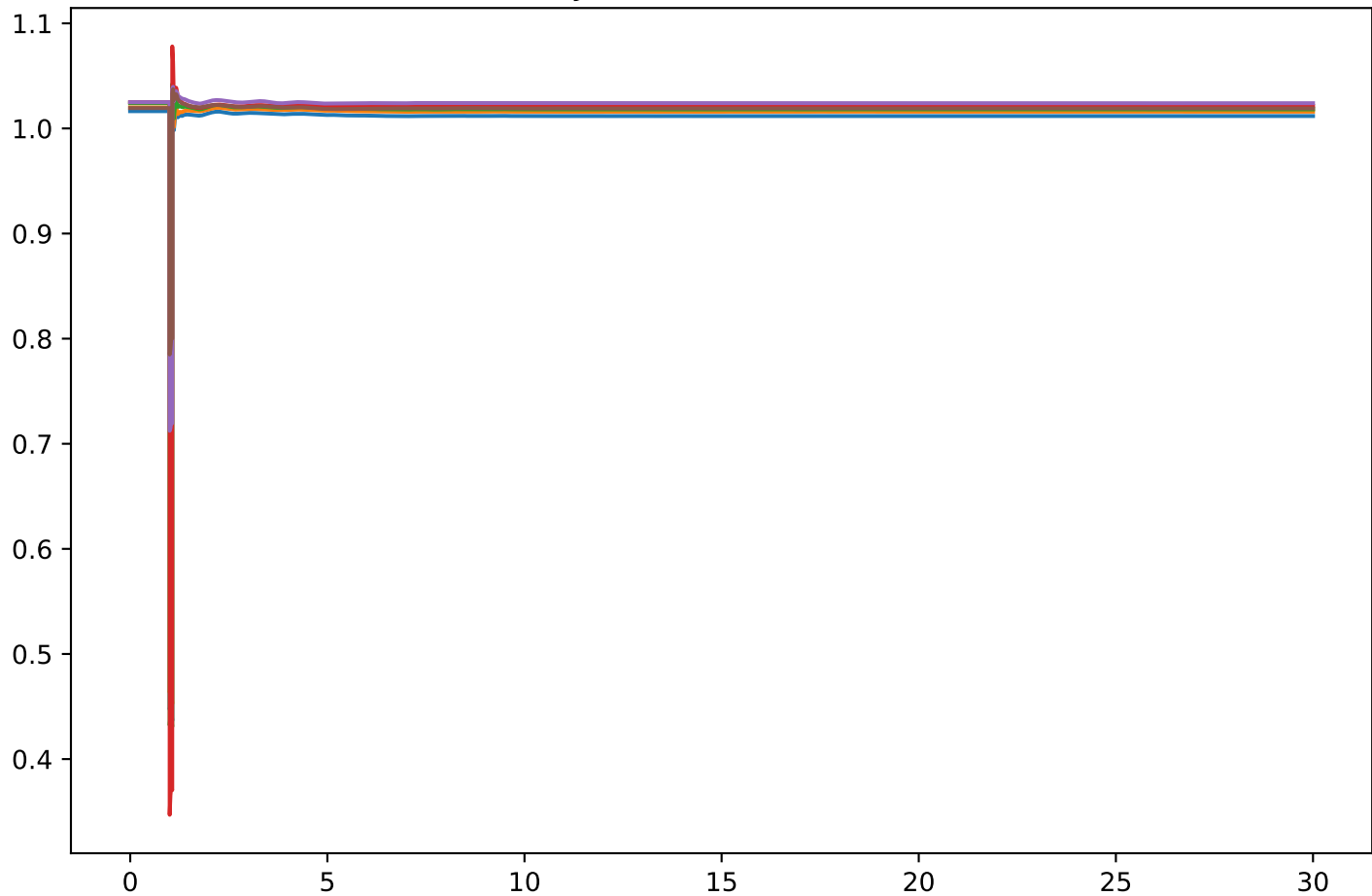
**2024 SECA**

### Frecuencia (Hz)

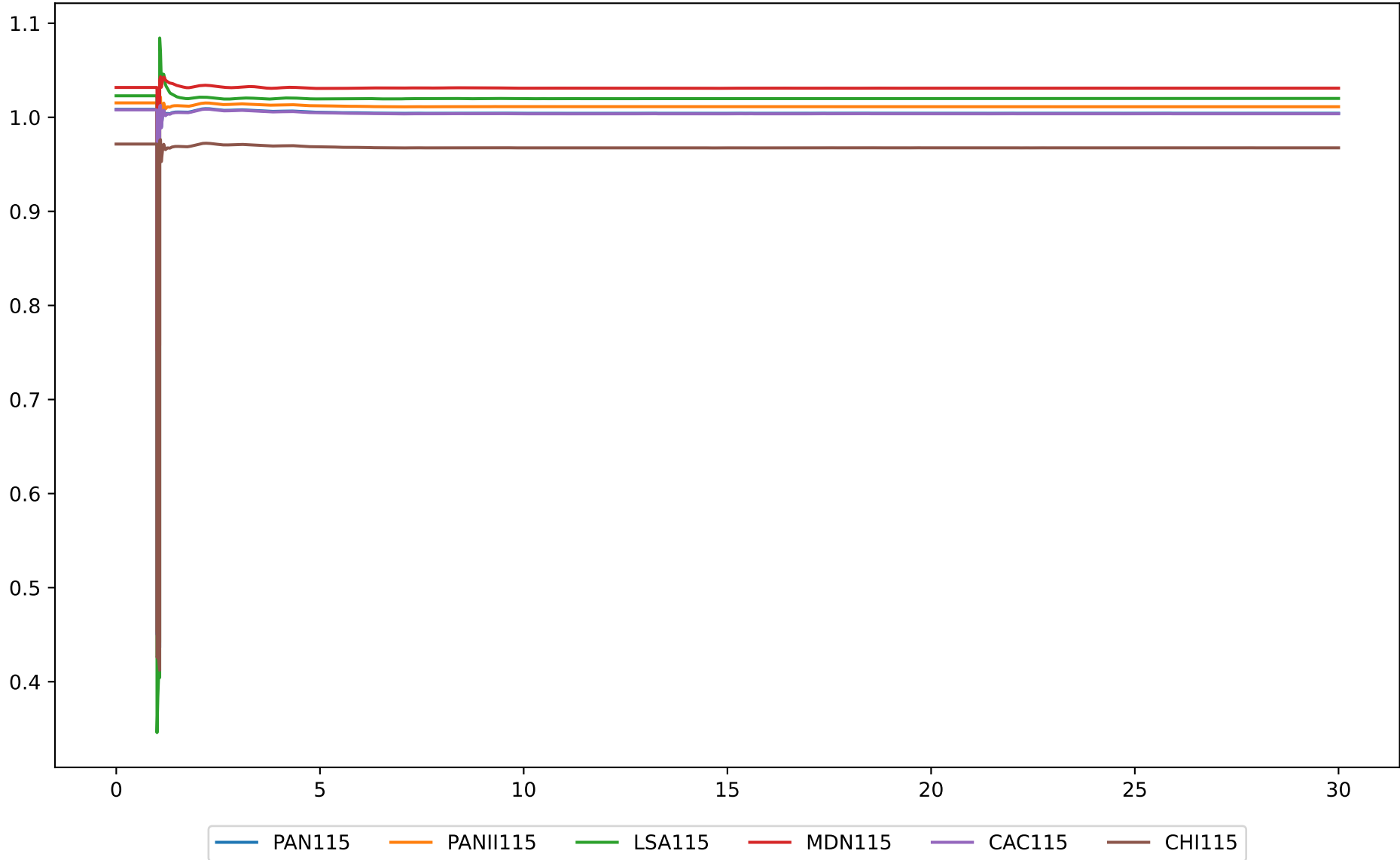




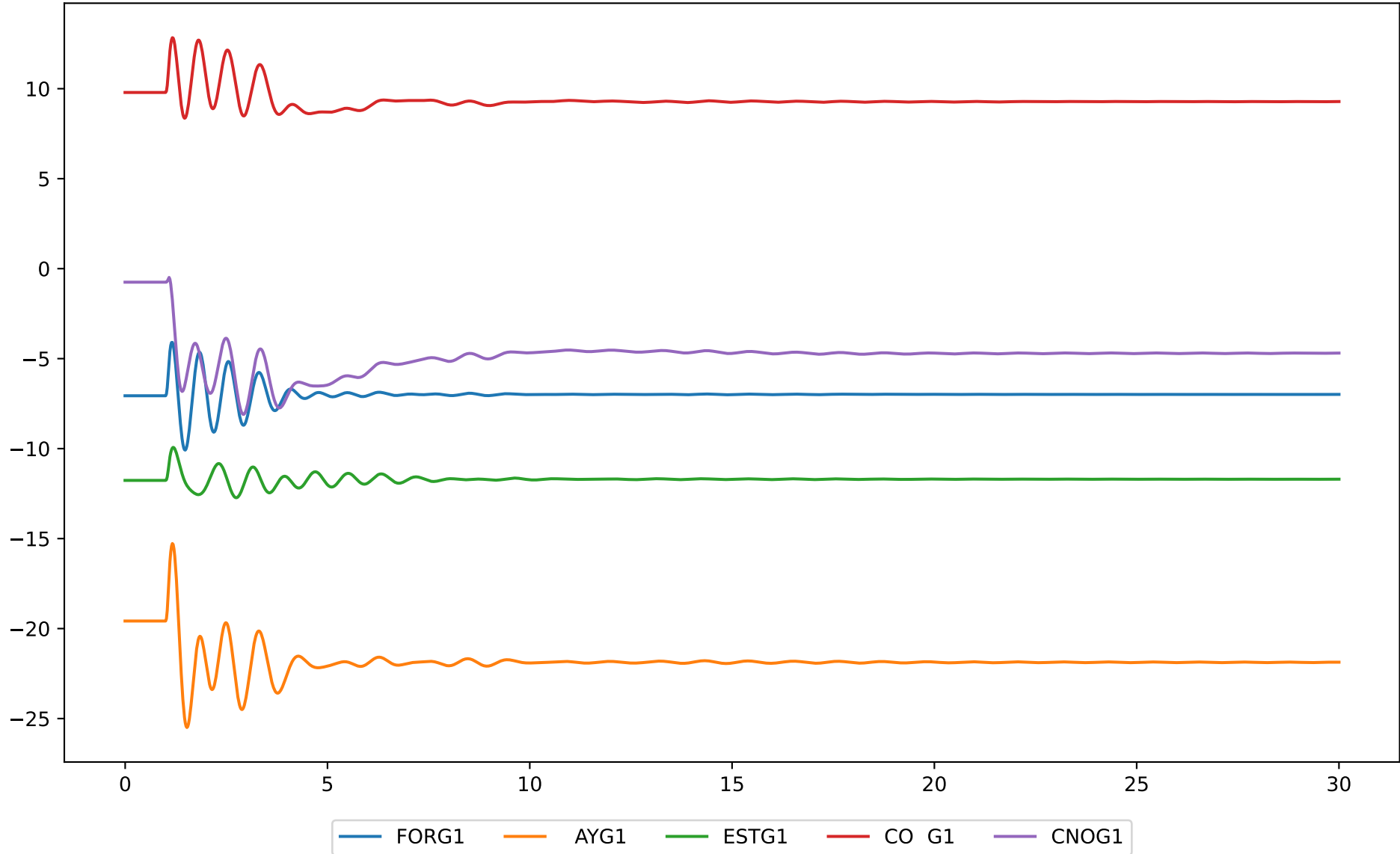
# Voltajes 230kV - Panama



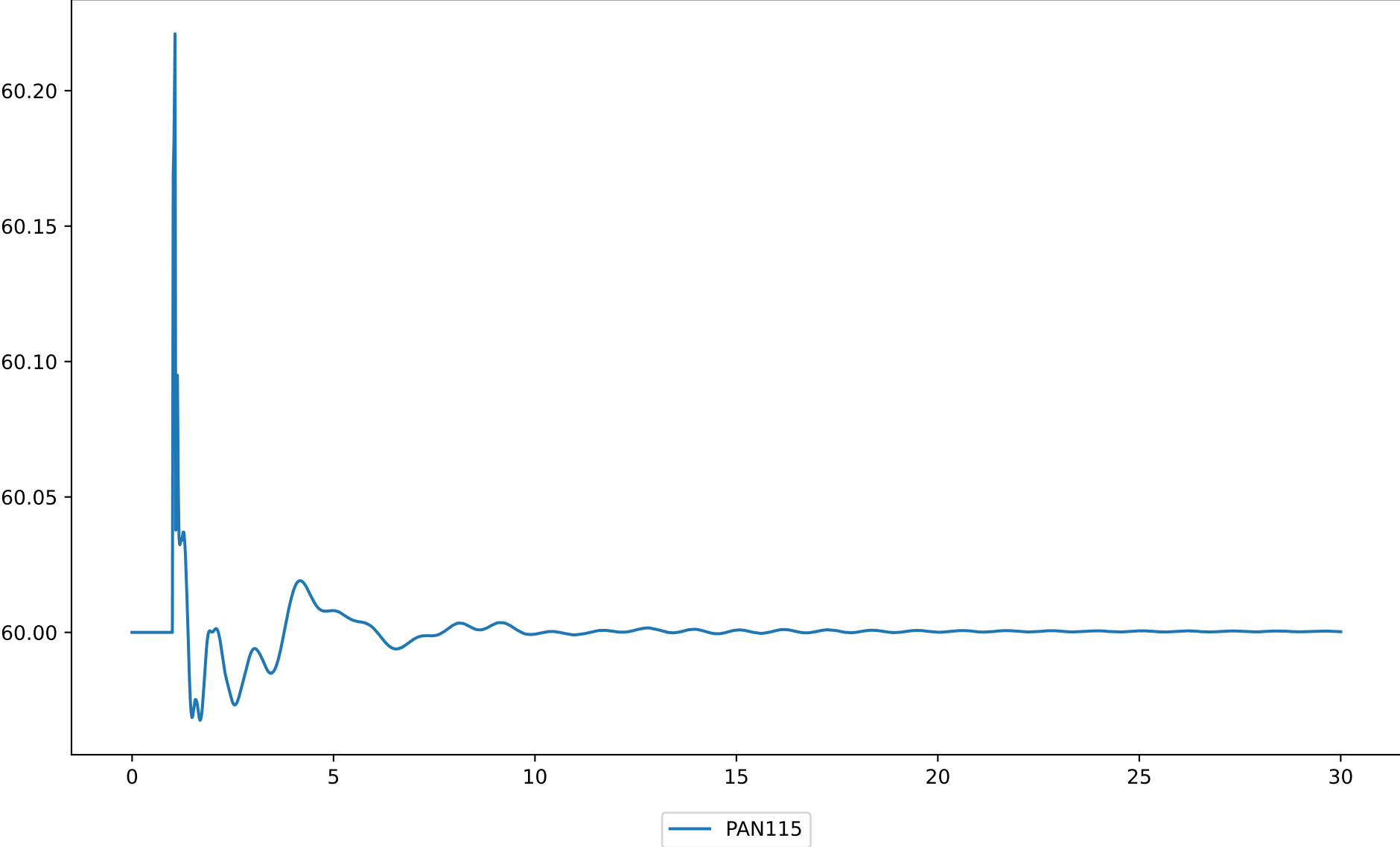
### Voltajes 115kV - Panama



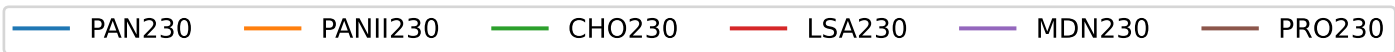
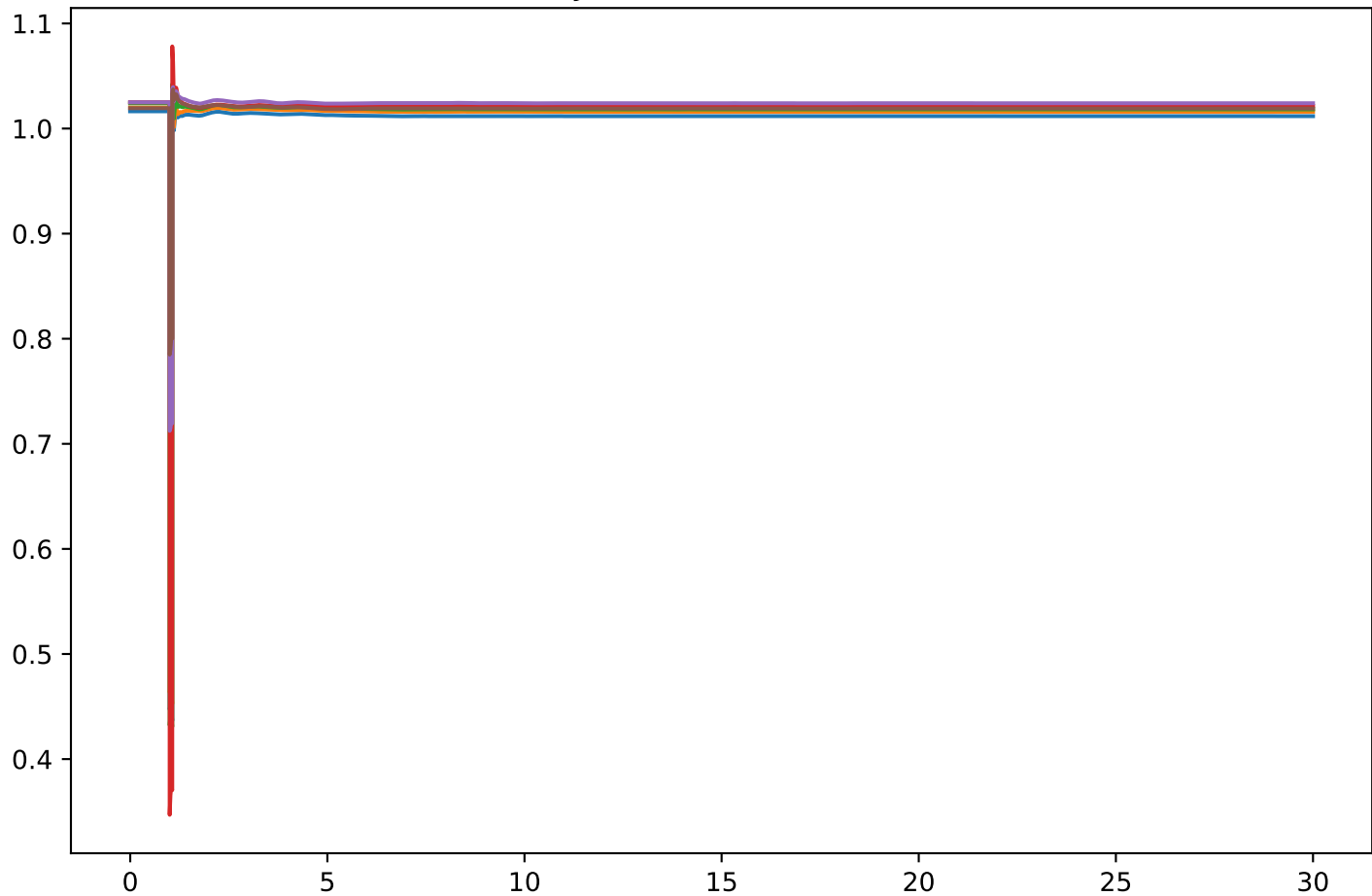
### Angulos de Rotacion de Maquinas - Panama



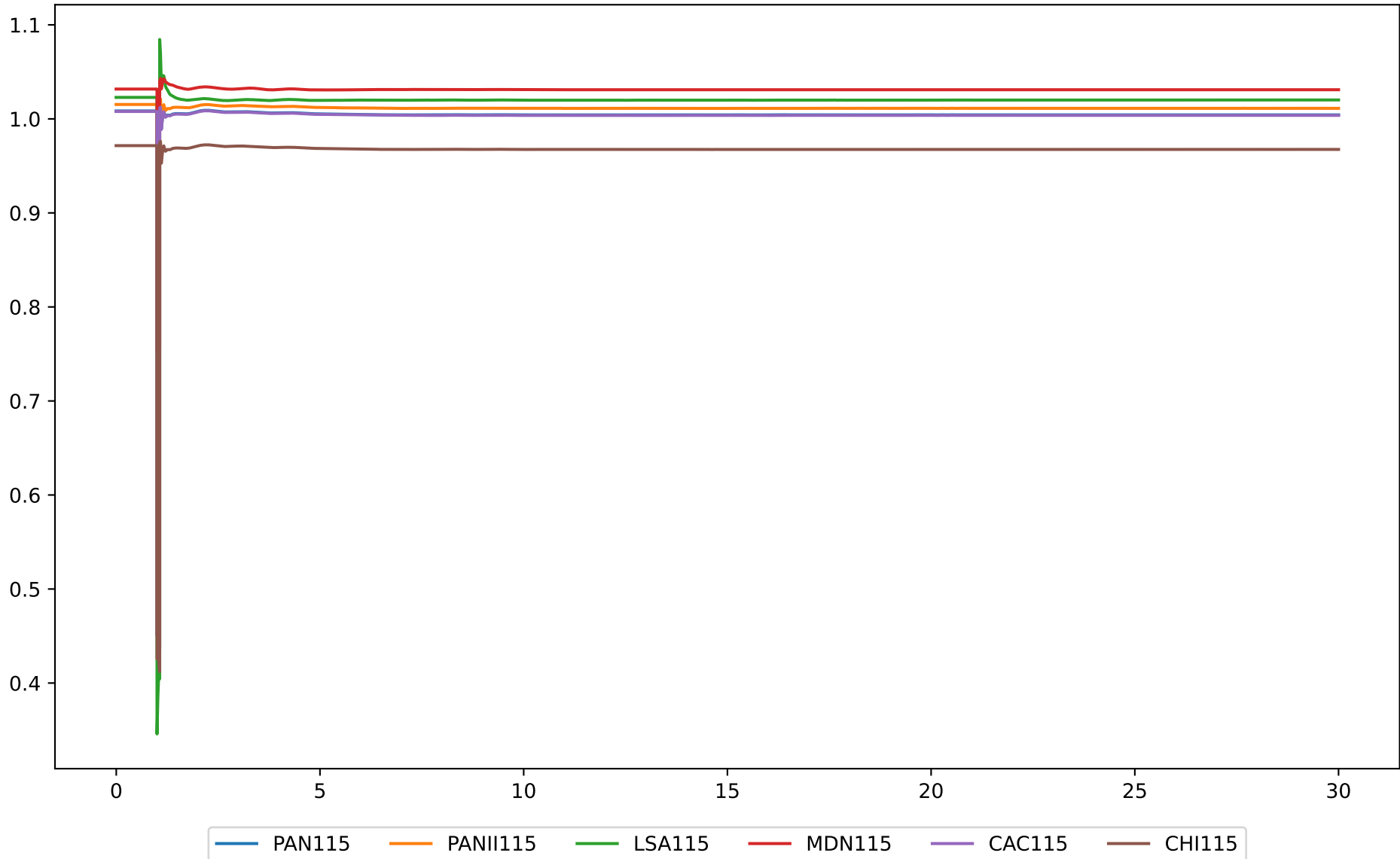
### Frecuencia (Hz)



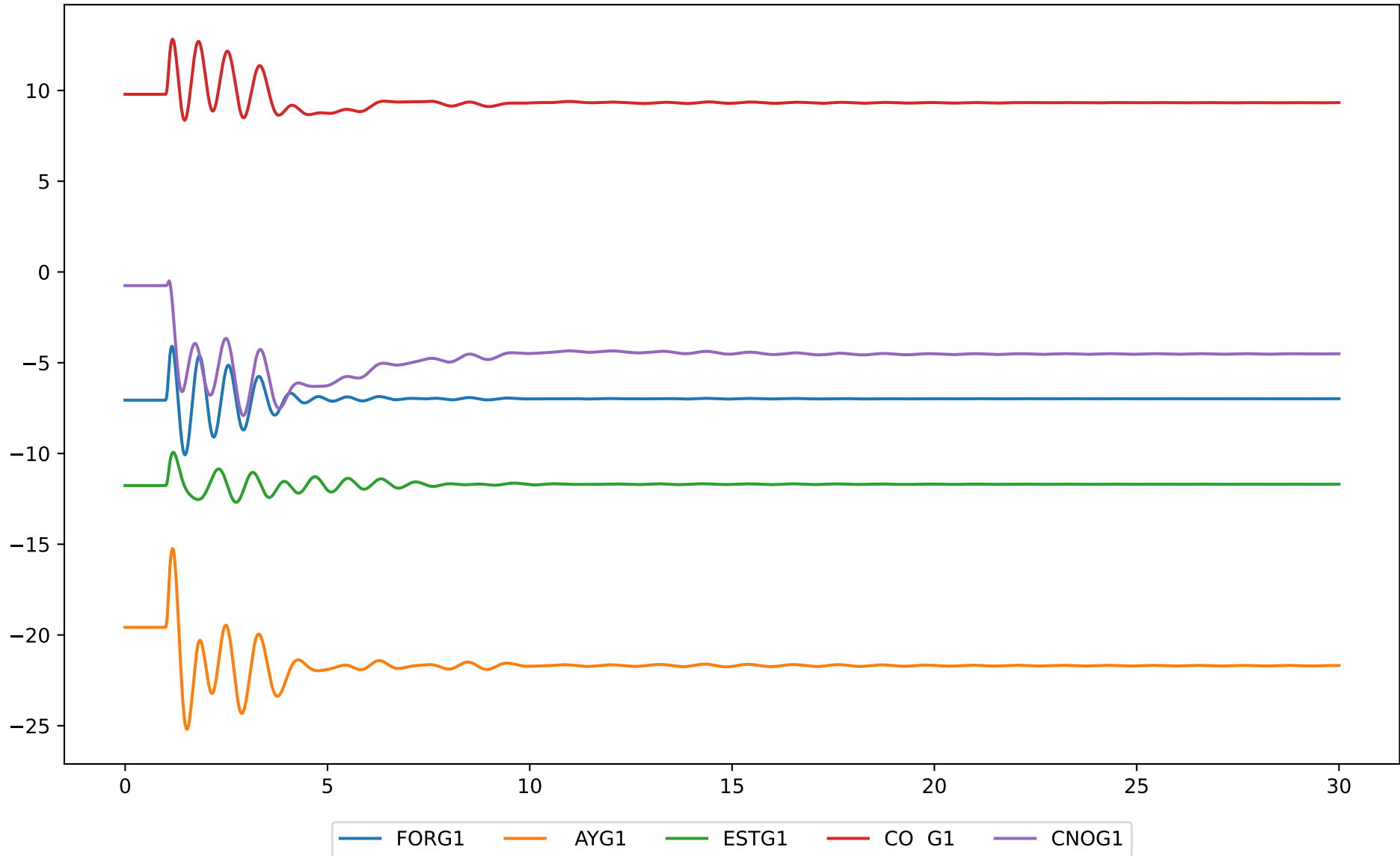
# Voltajes 230kV - Panama



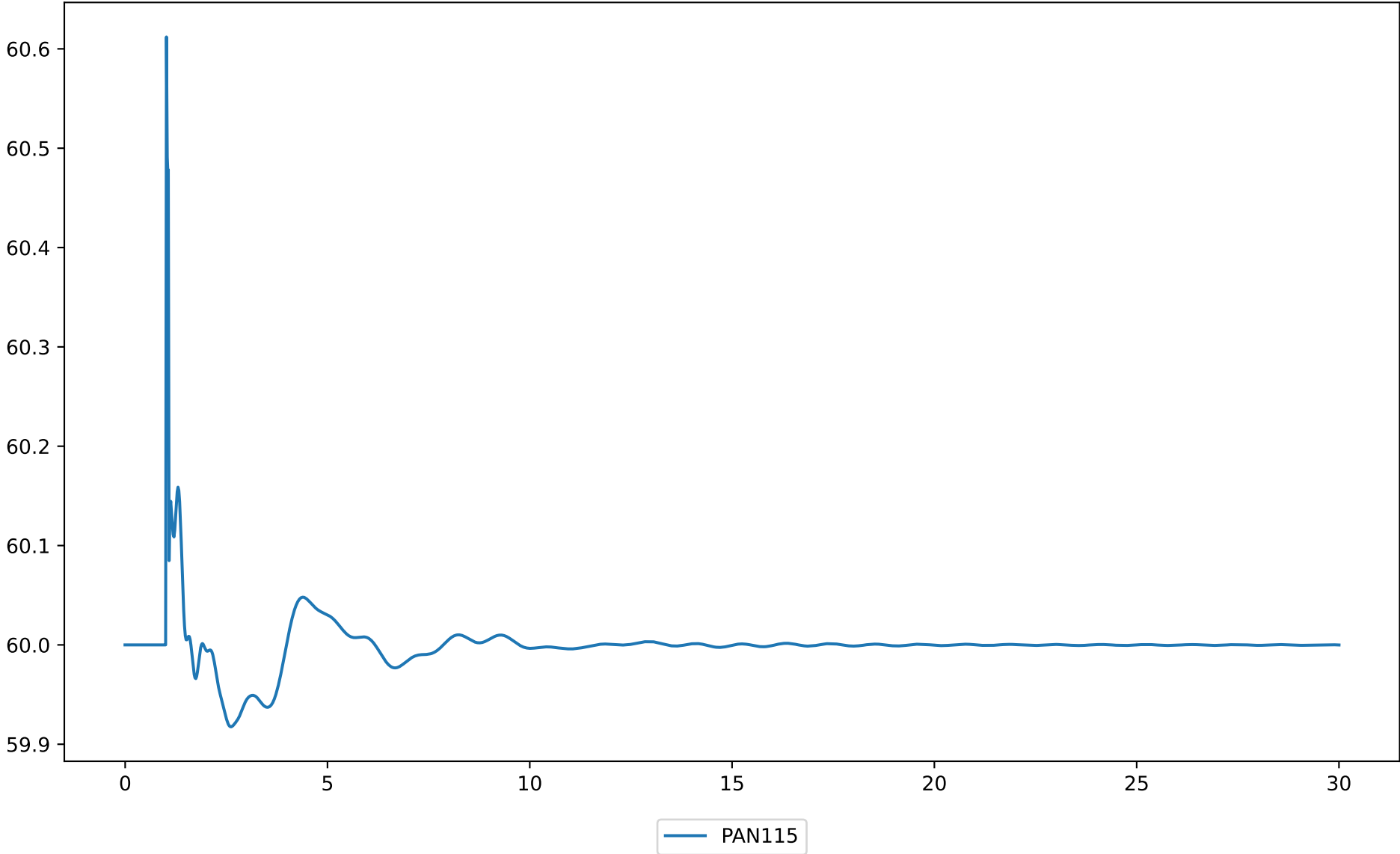
### Voltajes 115kV - Panama



### Angulos de Rotacion de Maquinas - Panama

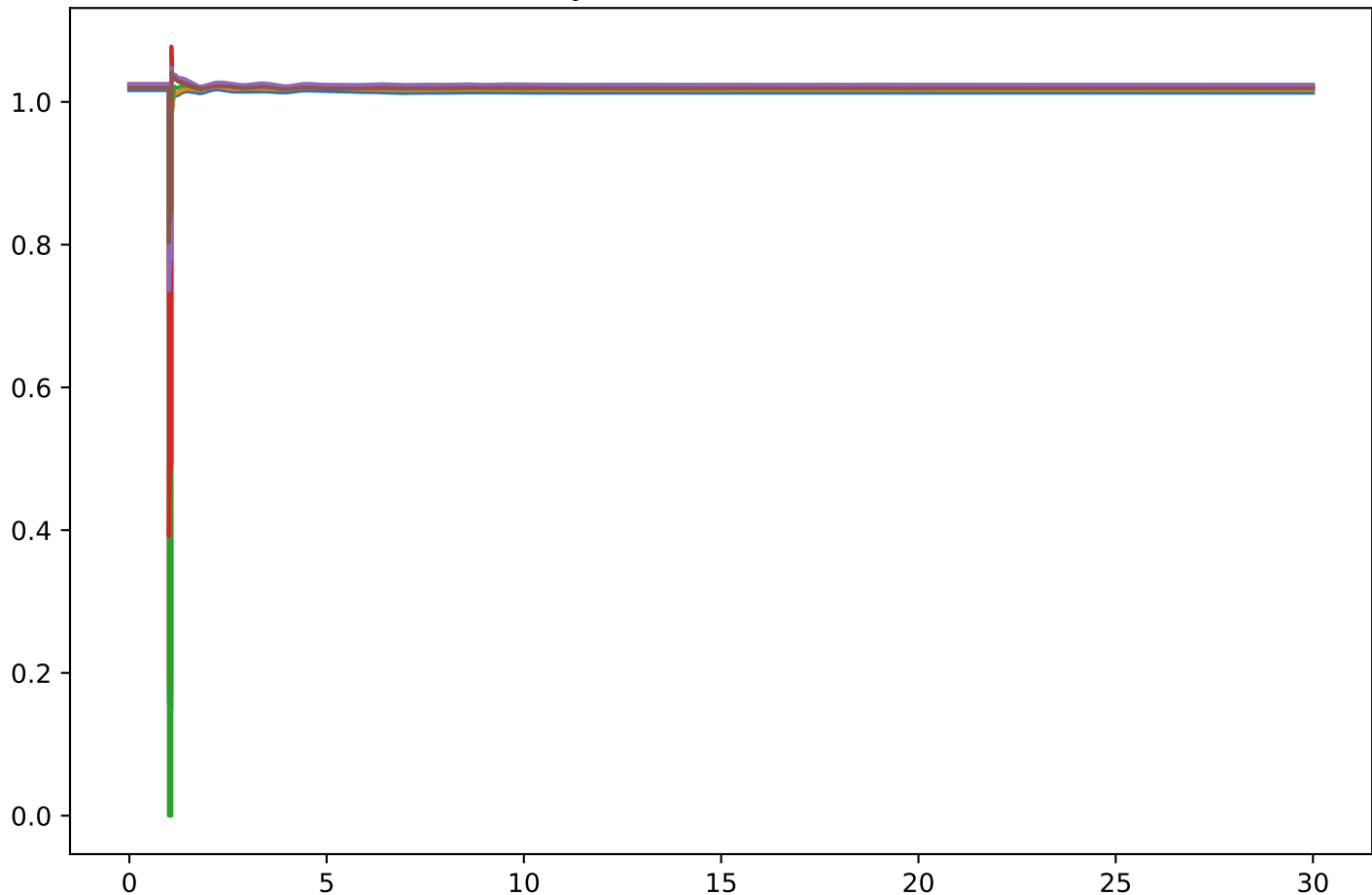


### Frecuencia (Hz)





# Voltajes 230kV - Panama

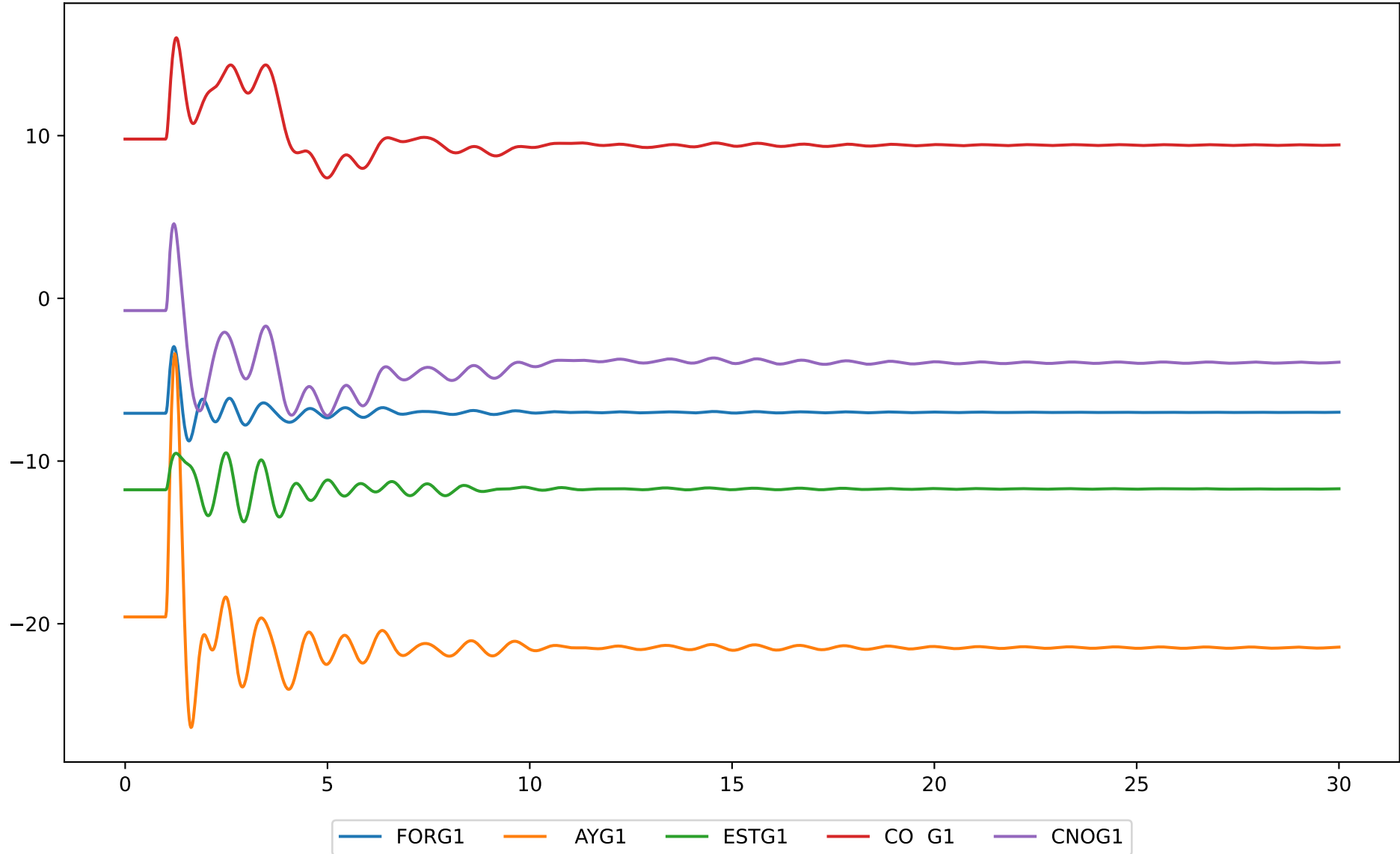


PAN230 PANII230 CHO230 LSA230 MDN230 PRO230

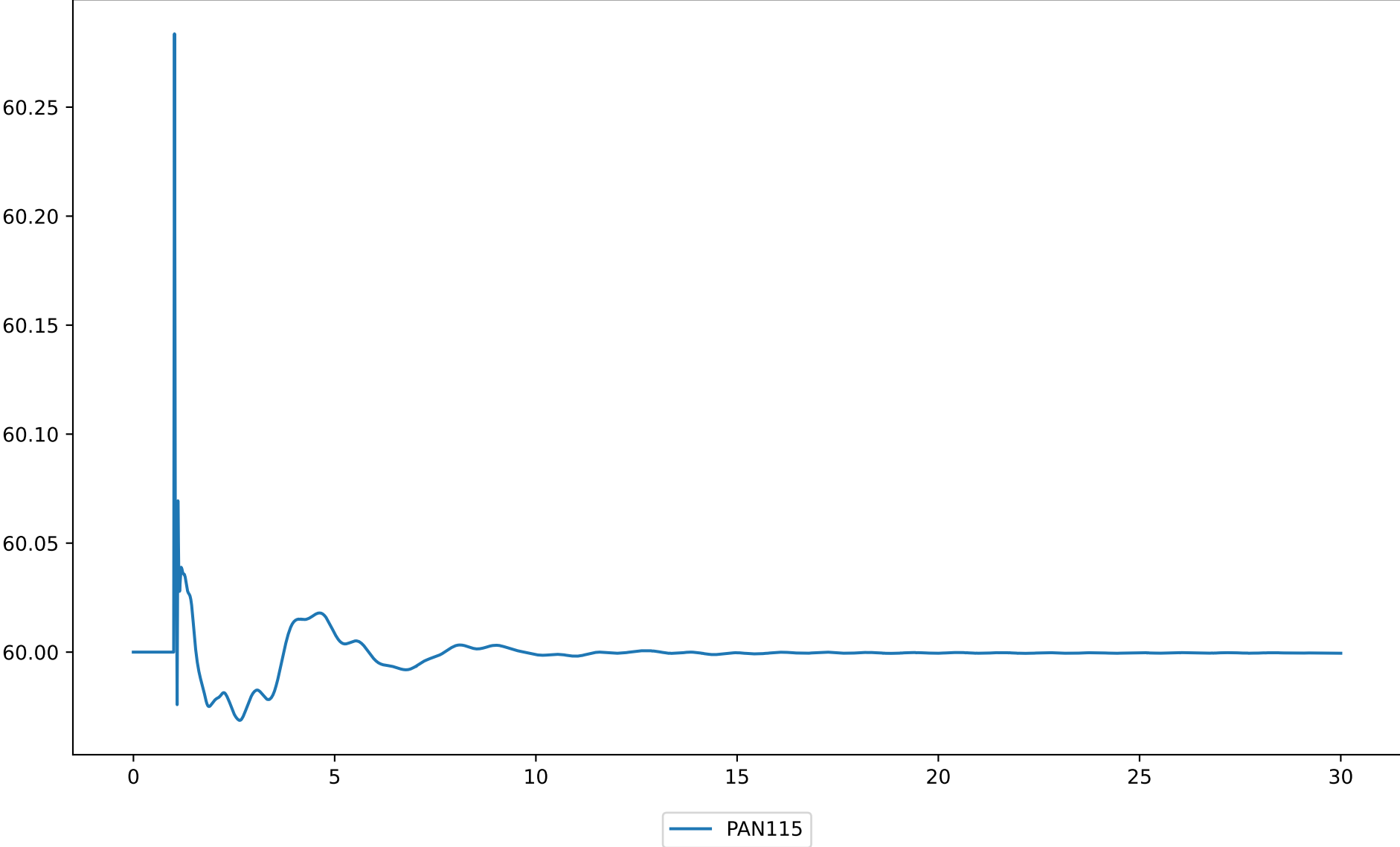
### Voltajes 115kV - Panama



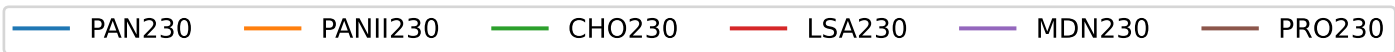
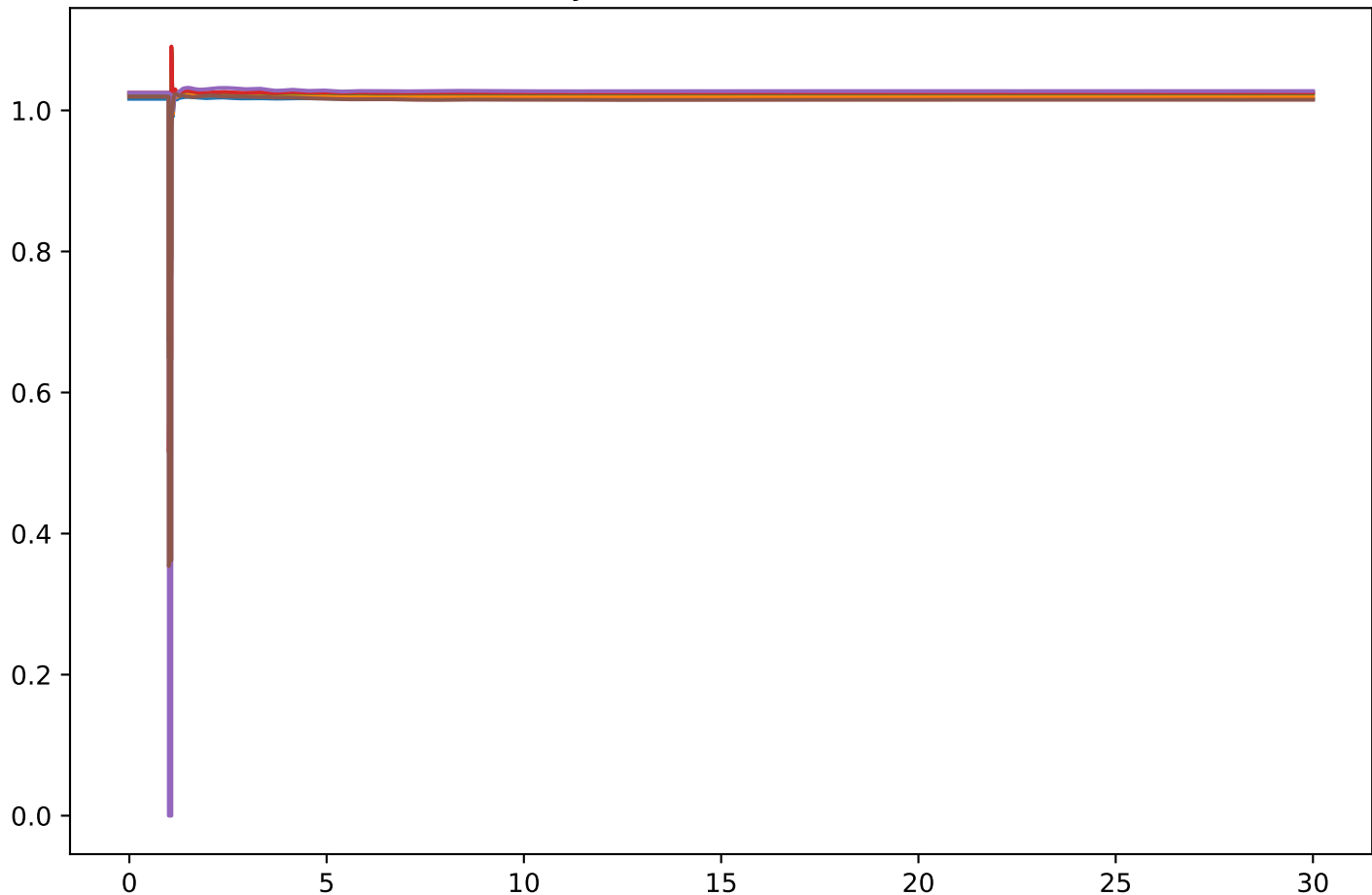
### Angulos de Rotacion de Maquinas - Panama



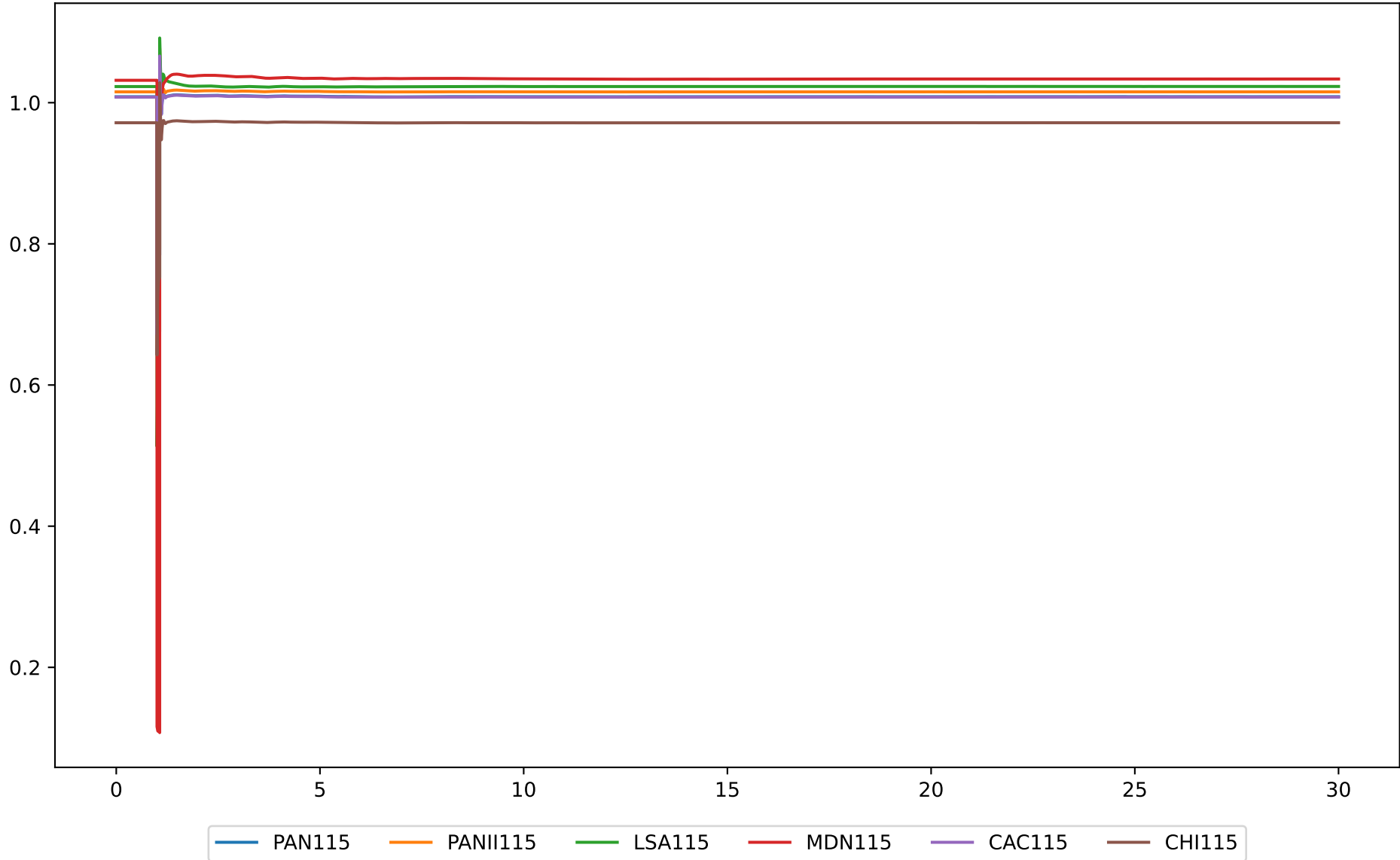
### Frecuencia (Hz)



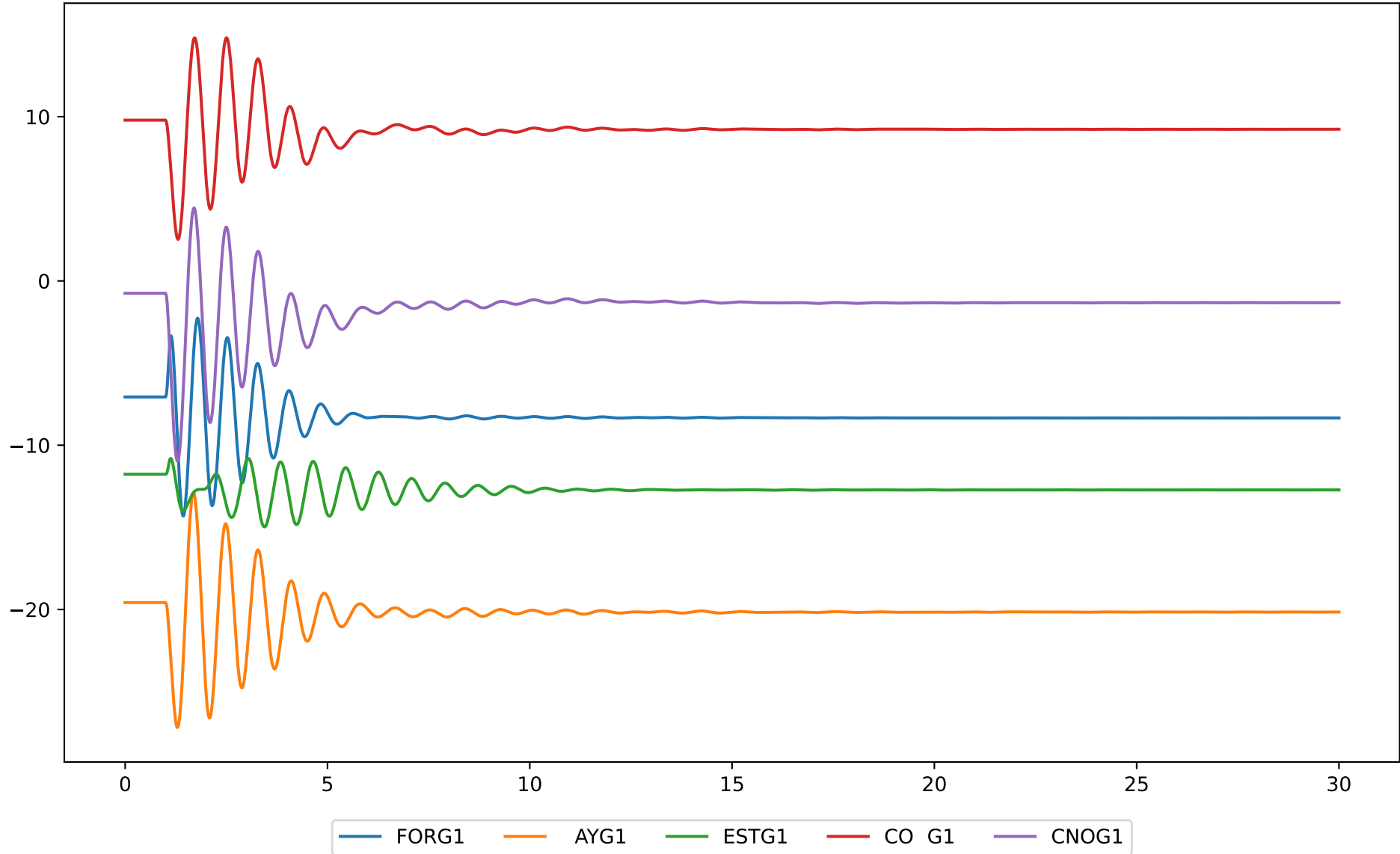
# Voltajes 230kV - Panama



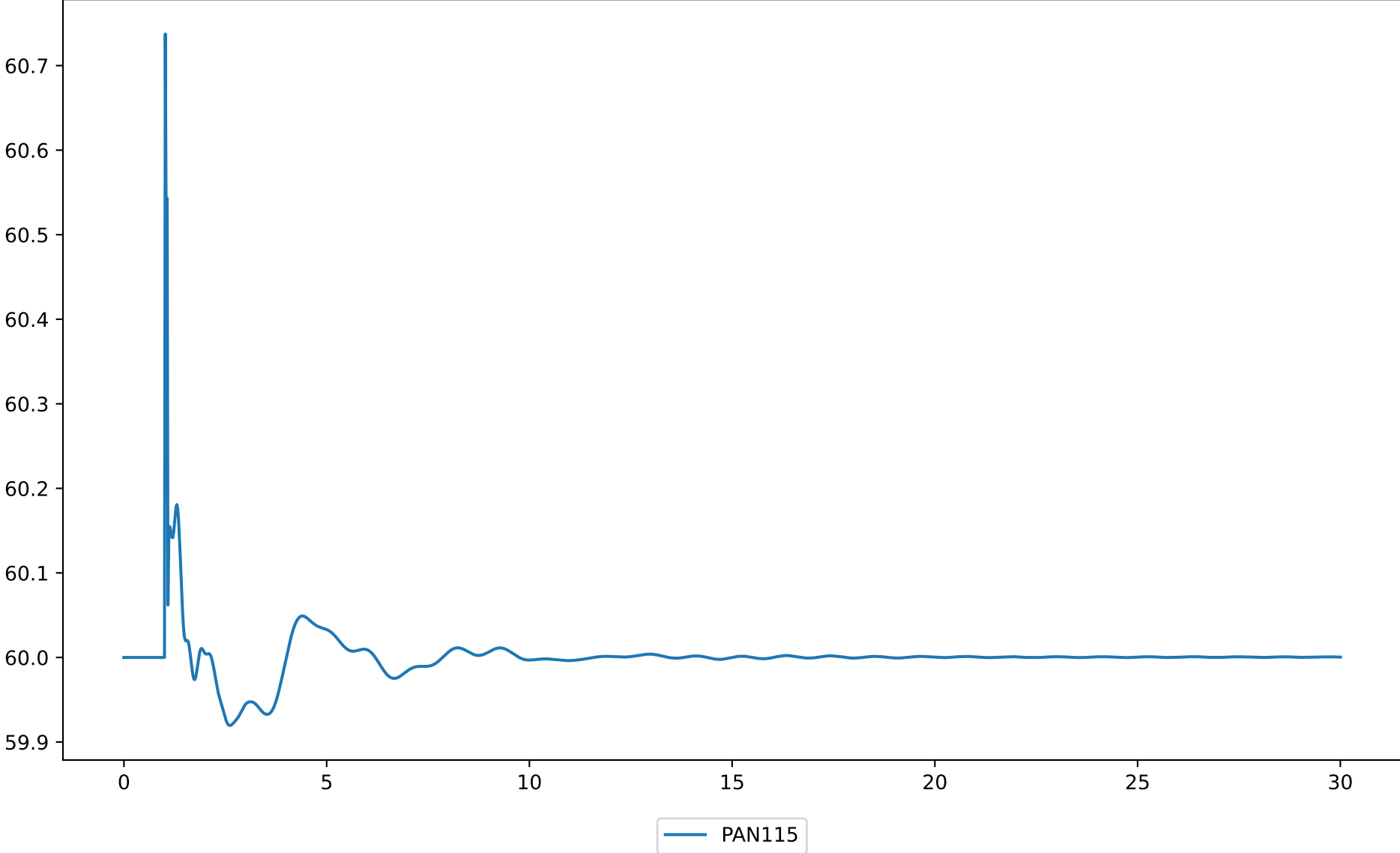
### Voltajes 115kV - Panama



### Angulos de Rotacion de Maquinas - Panama

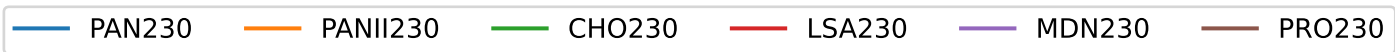
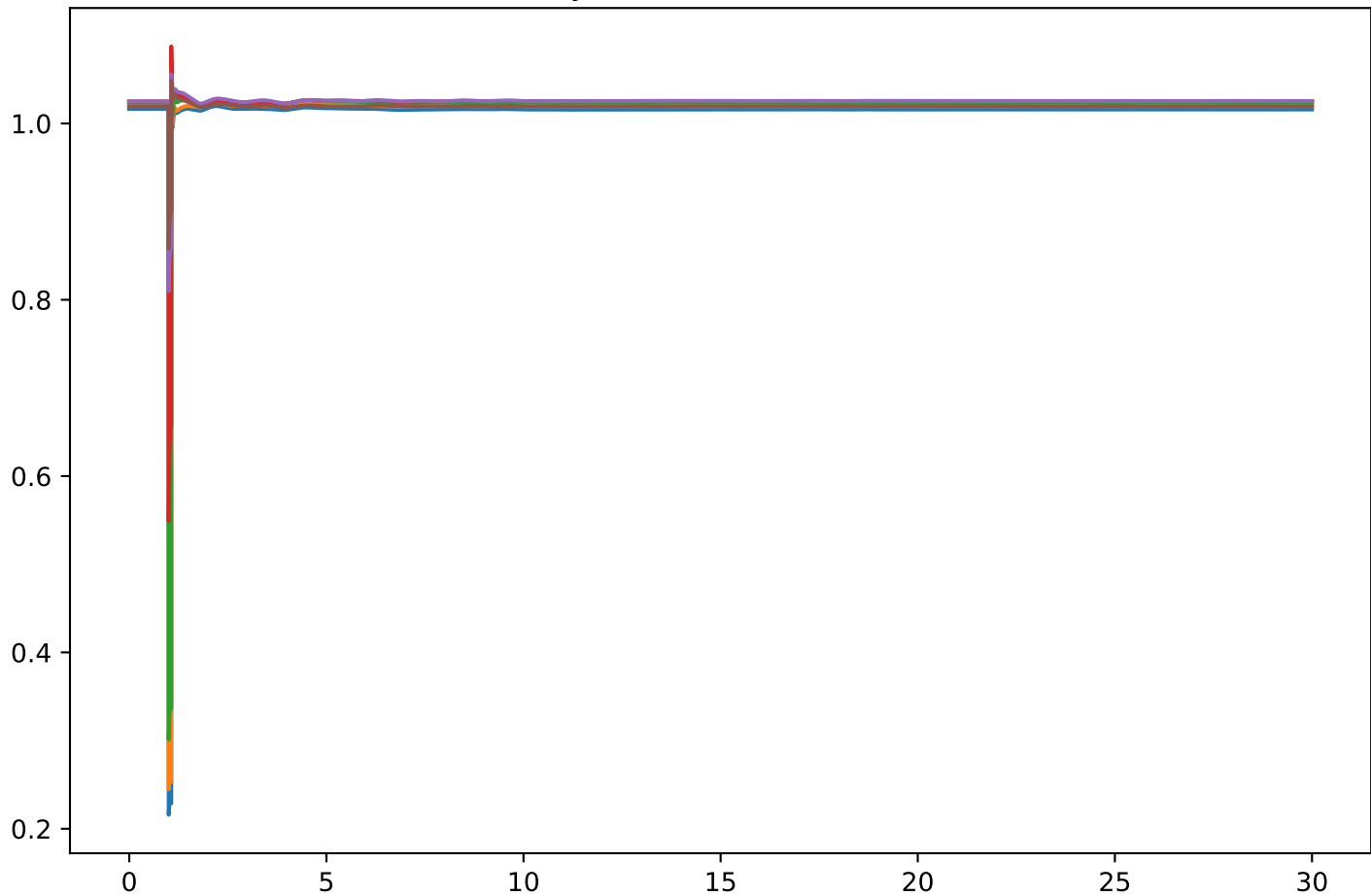


### Frecuencia (Hz)

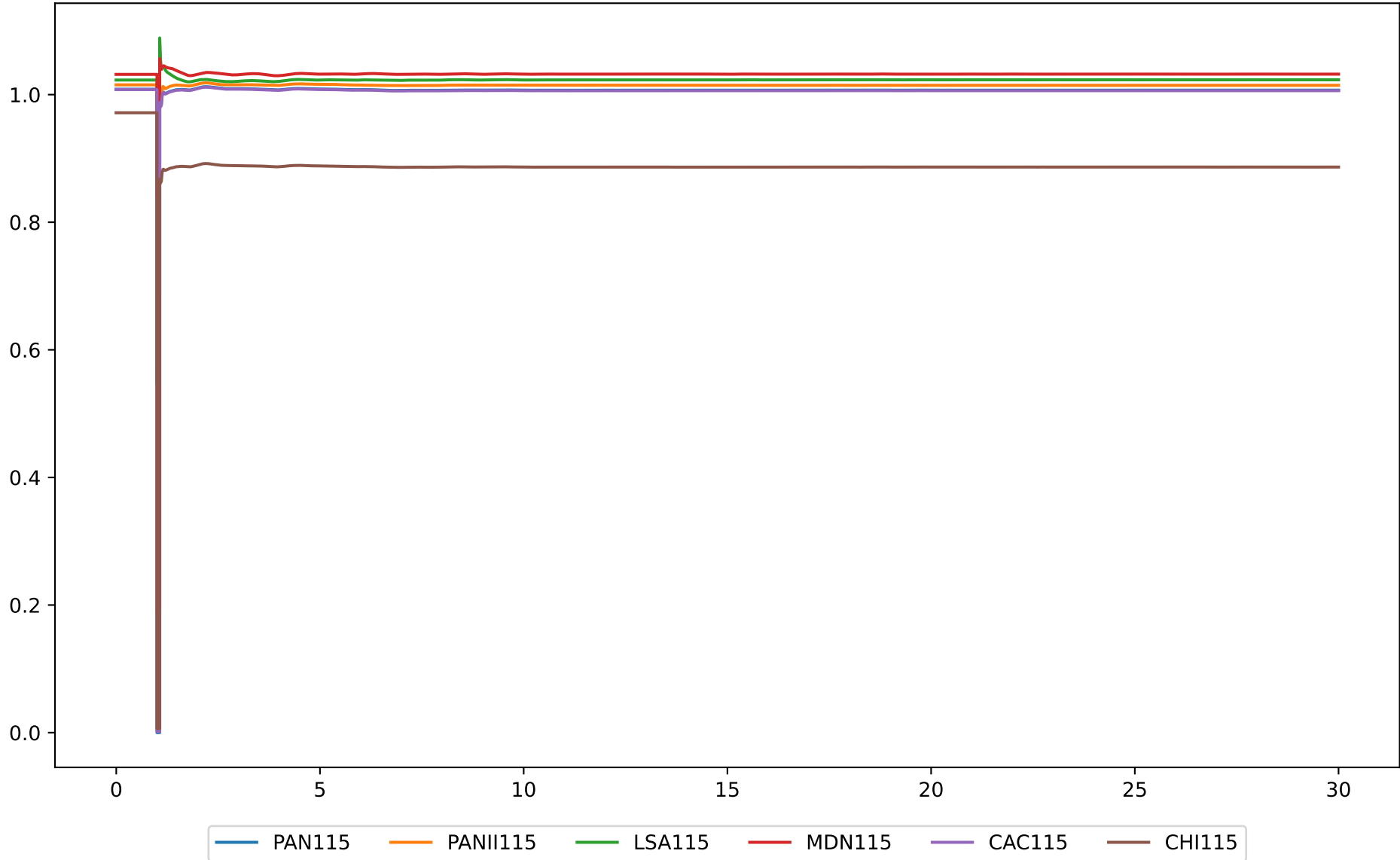




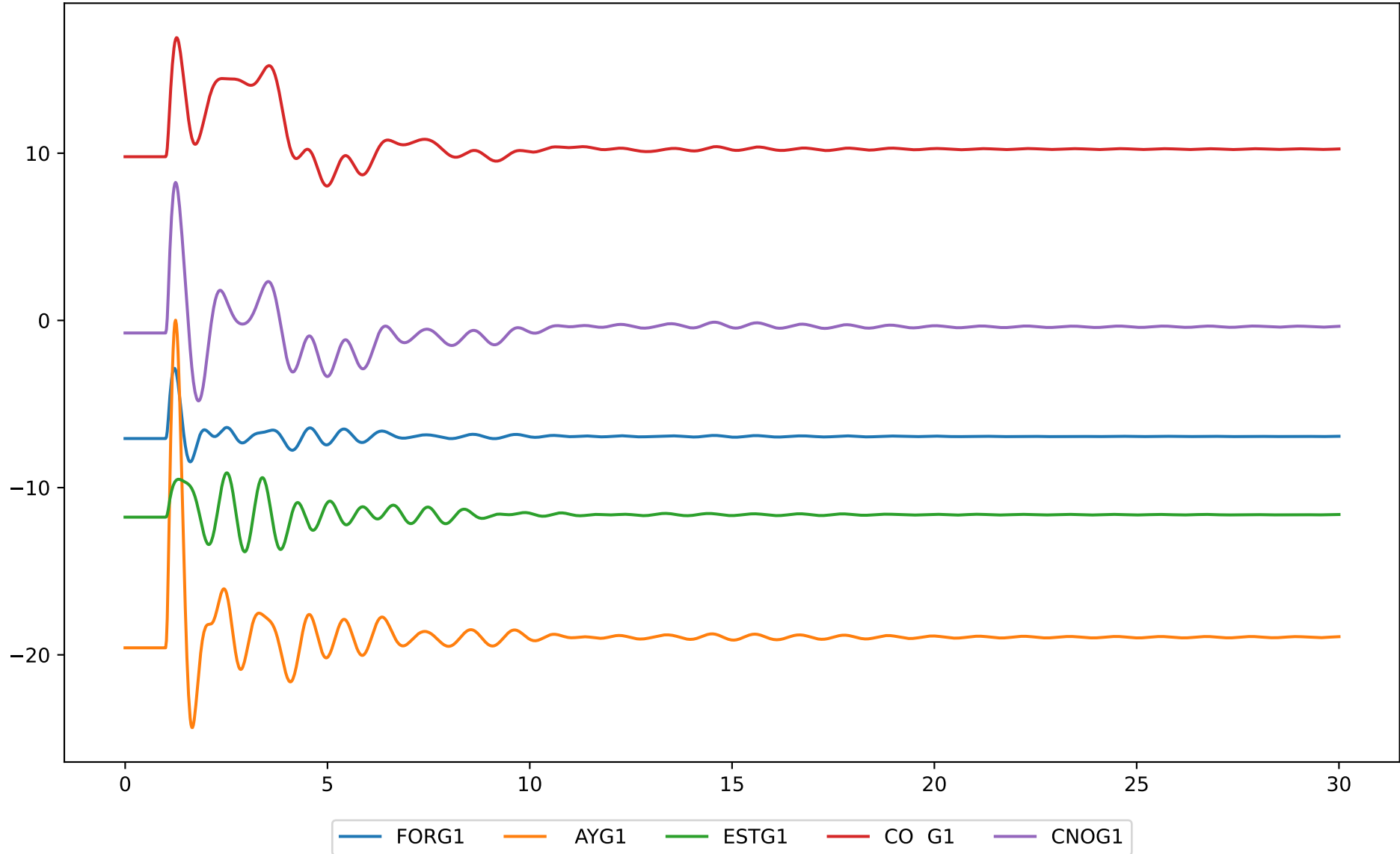
# Voltajes 230kV - Panama



### Voltajes 115kV - Panama

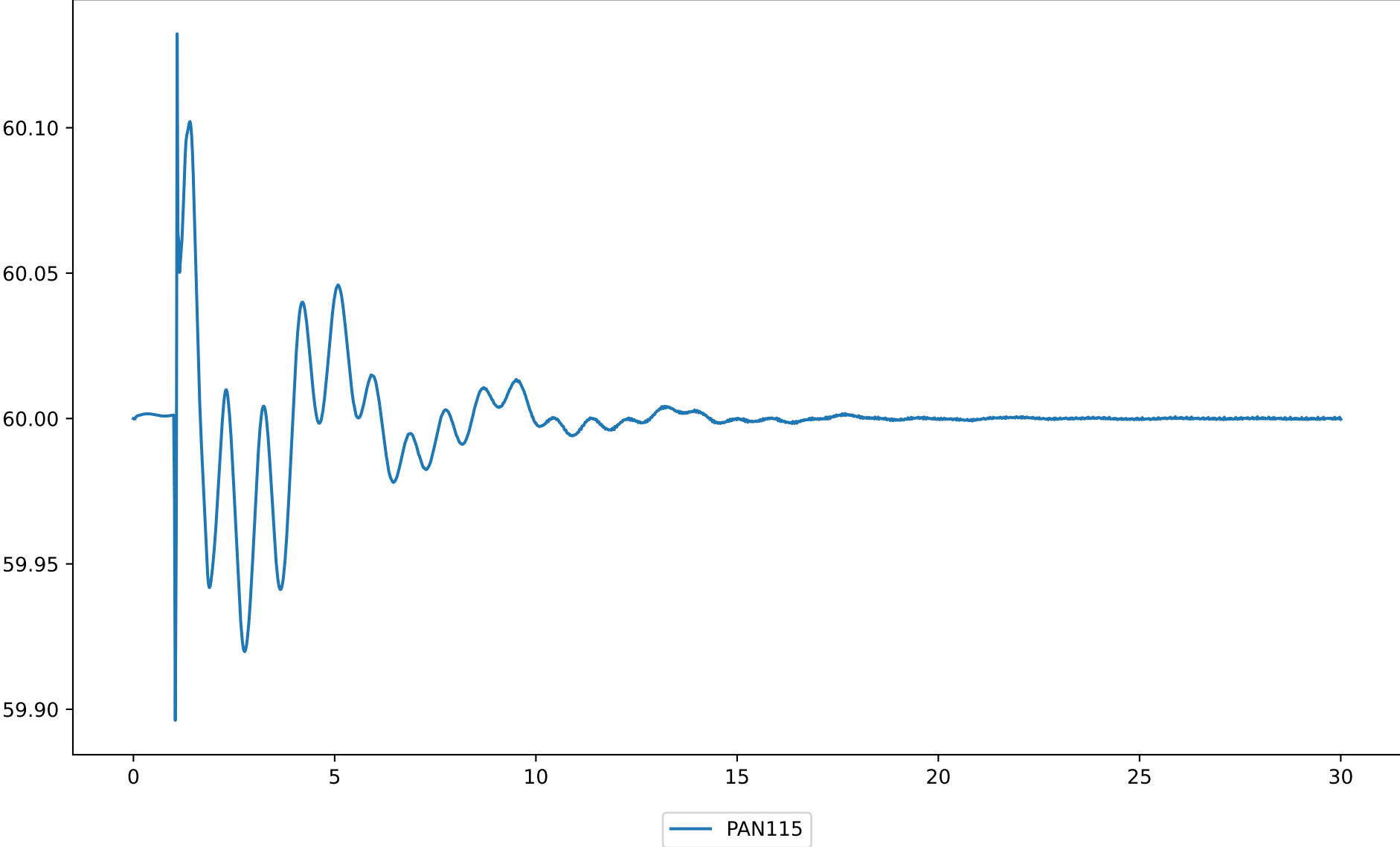


### Angulos de Rotacion de Maquinas - Panama

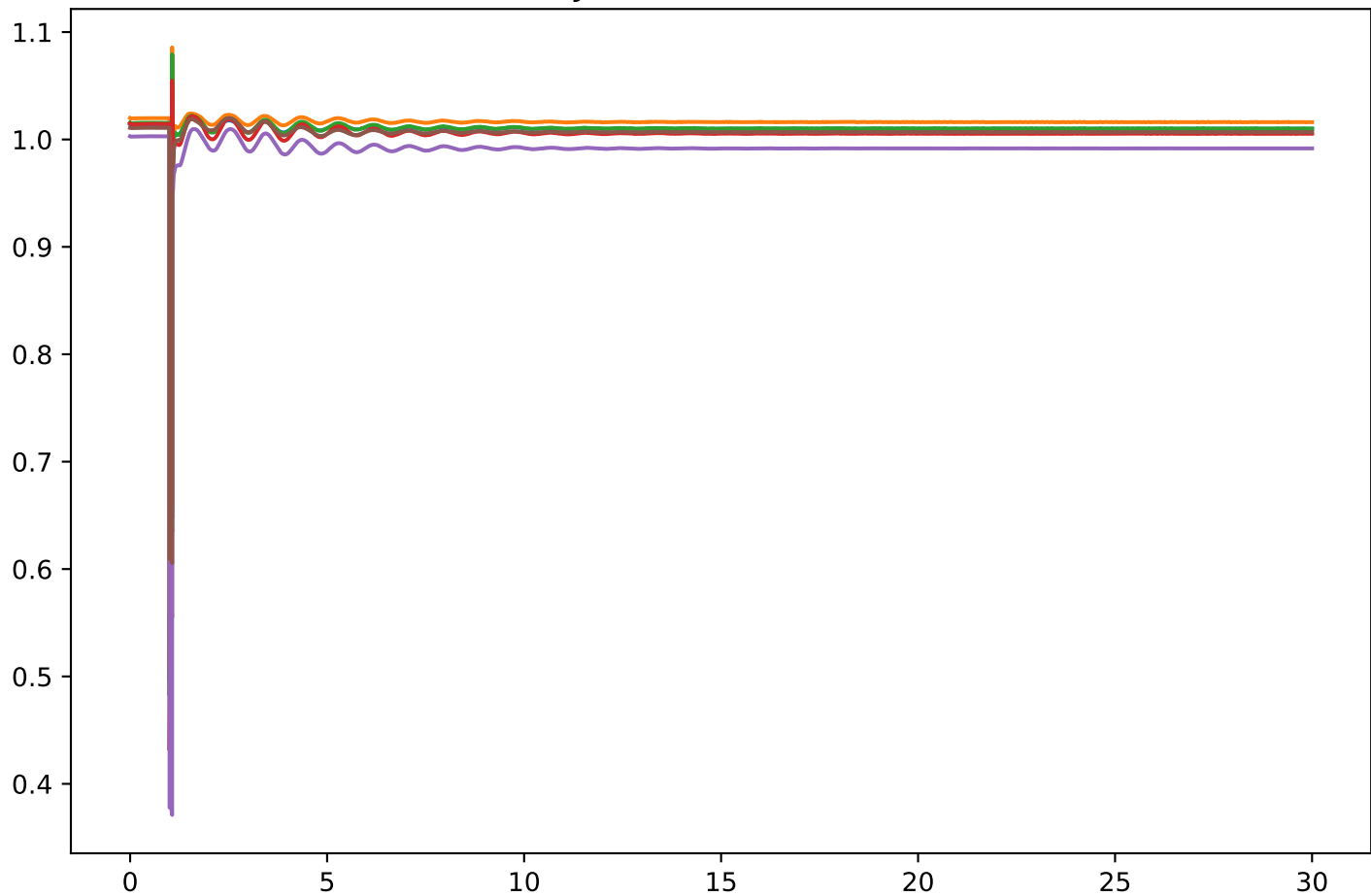


**2024 LLUVIOSA**

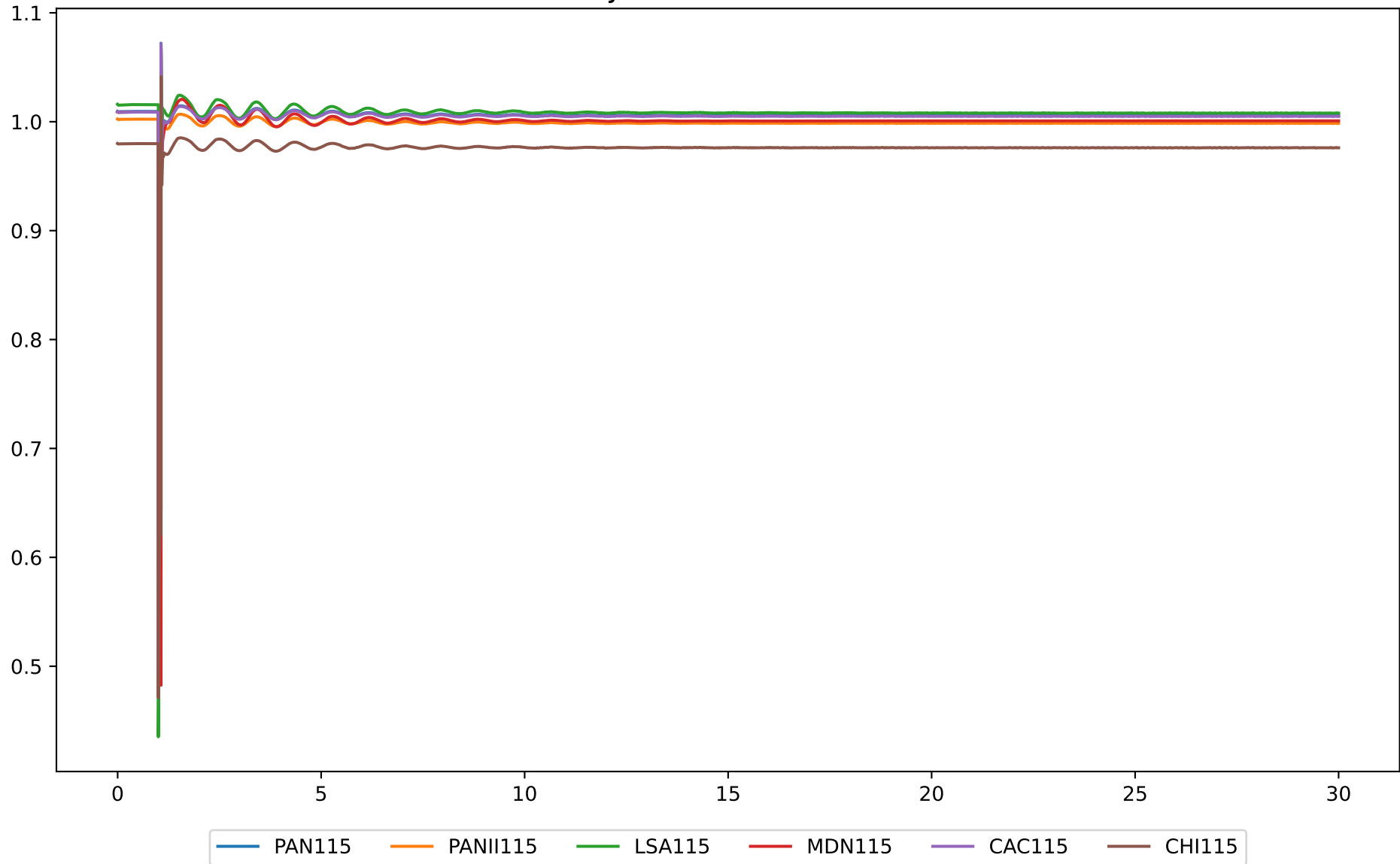
### Frecuencia (Hz)



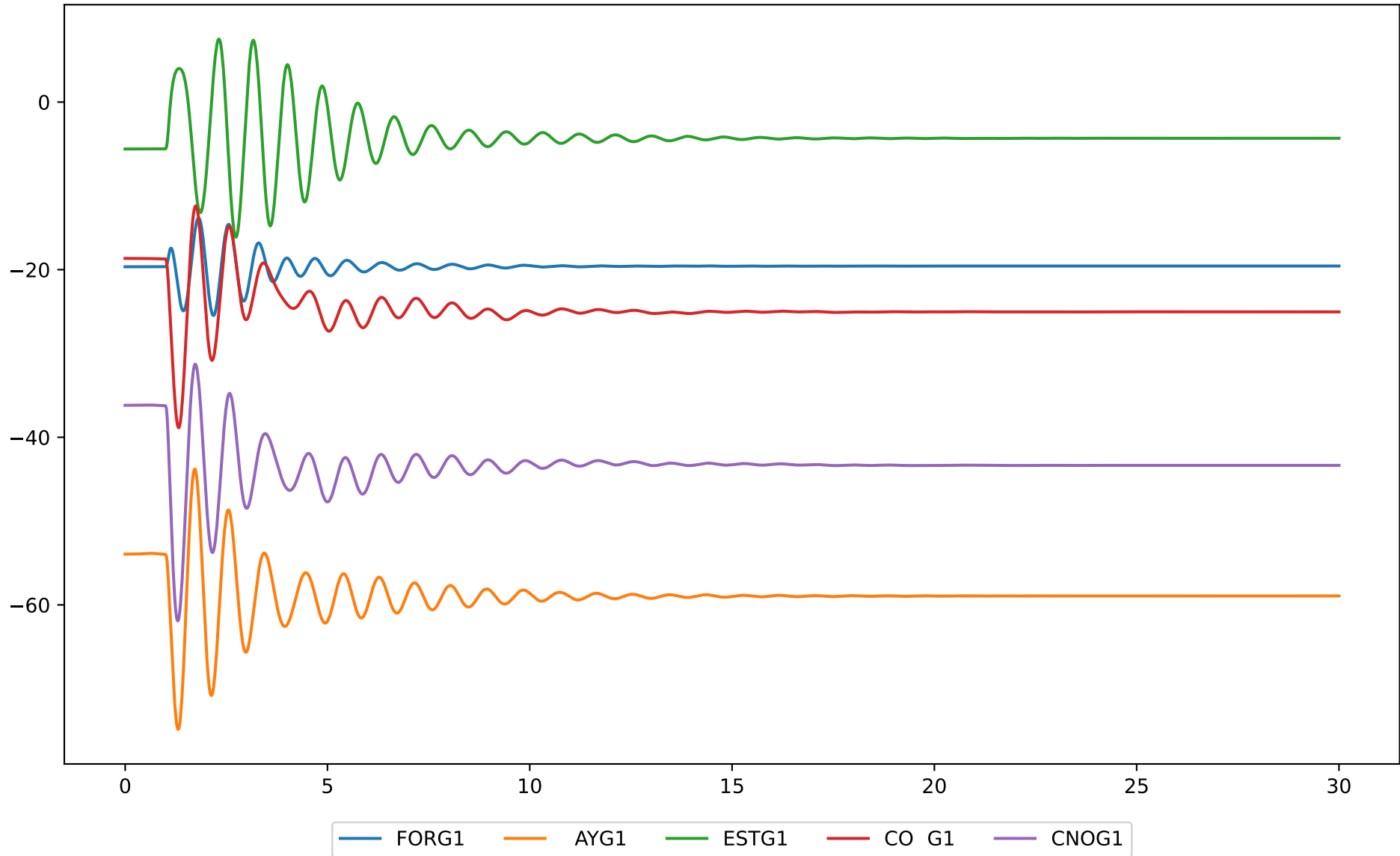
# Voltajes 230kV - Panama



### Voltajes 115kV - Panama

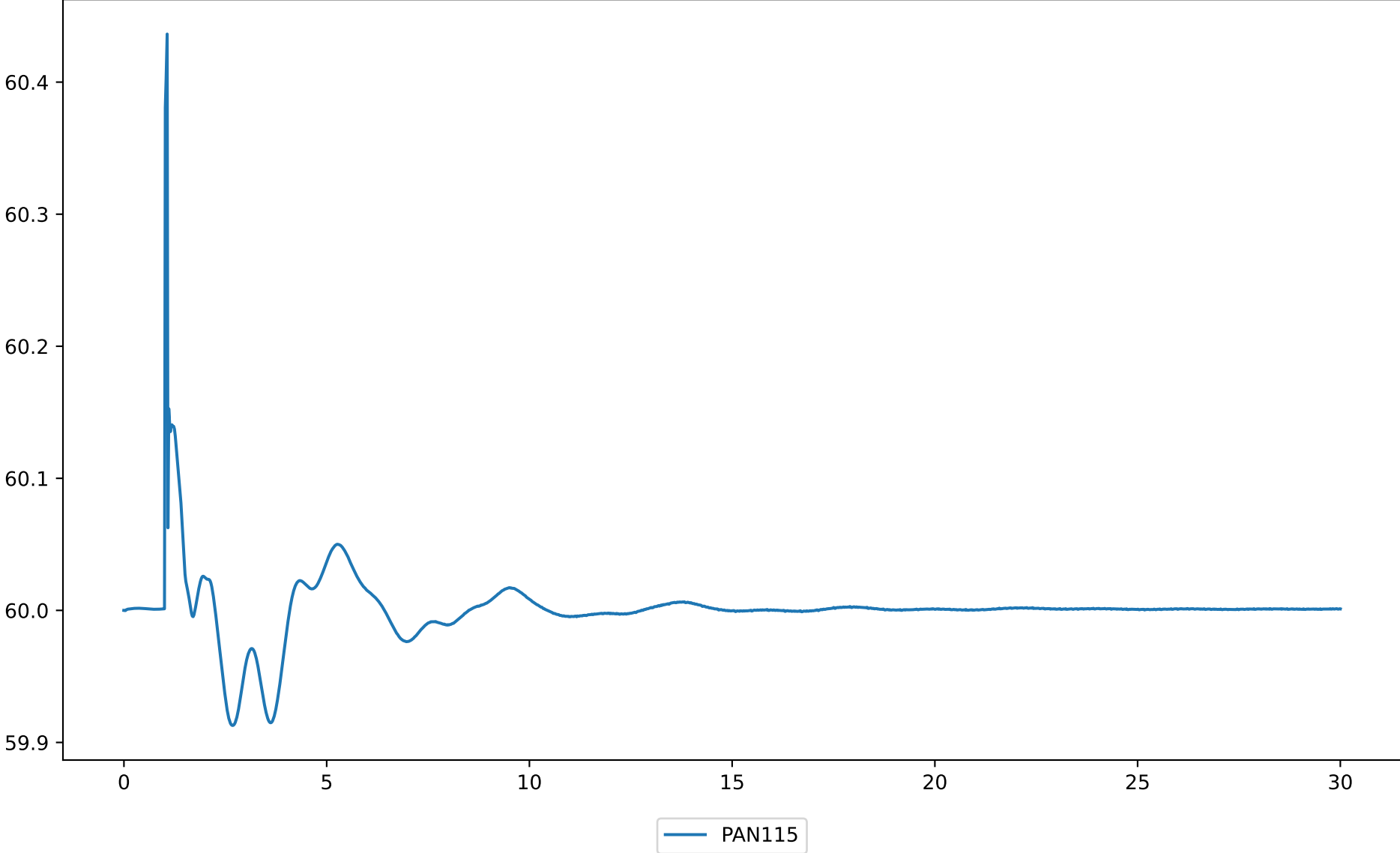


### Angulos de Rotacion de Maquinas - Panama

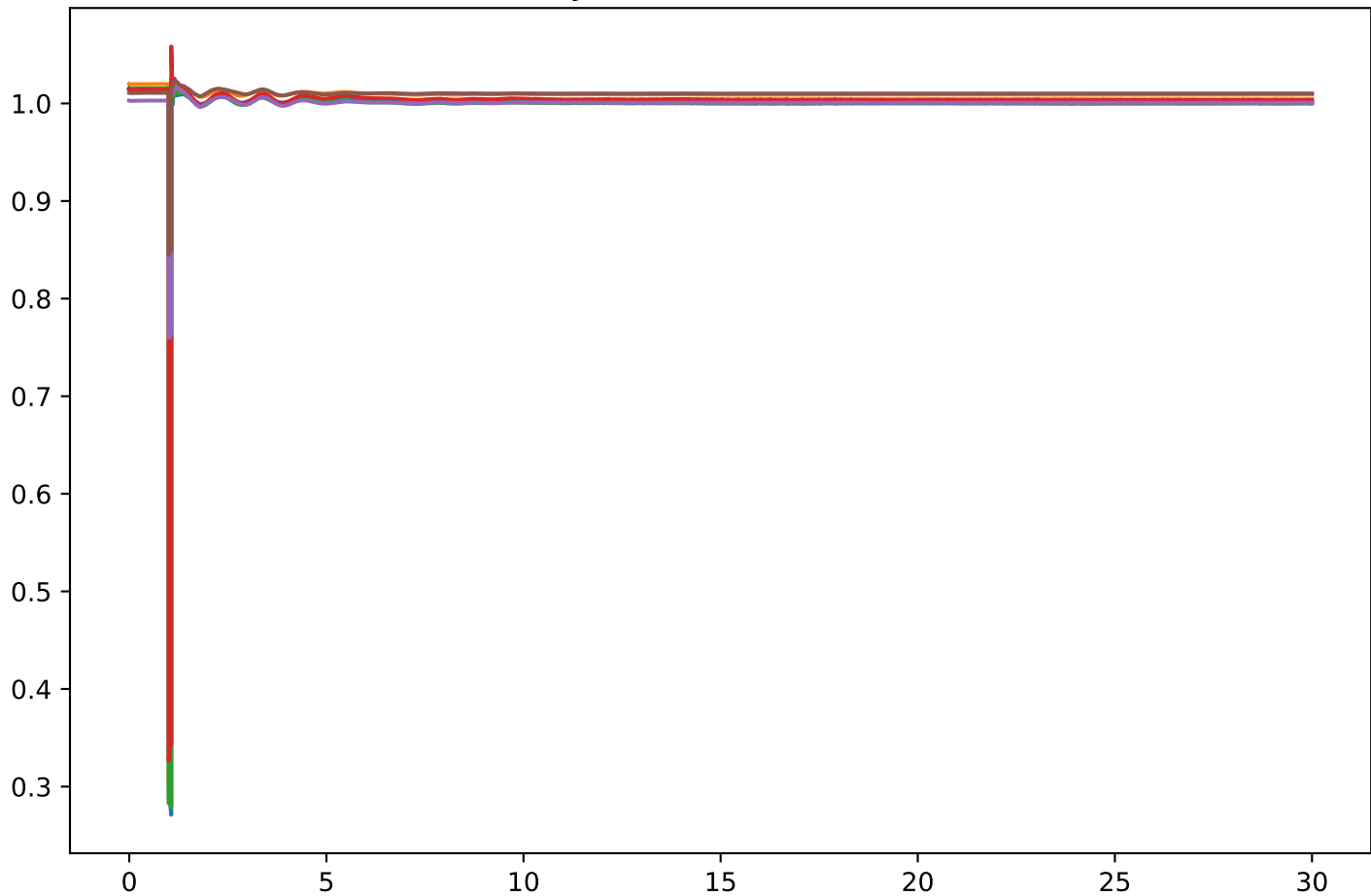




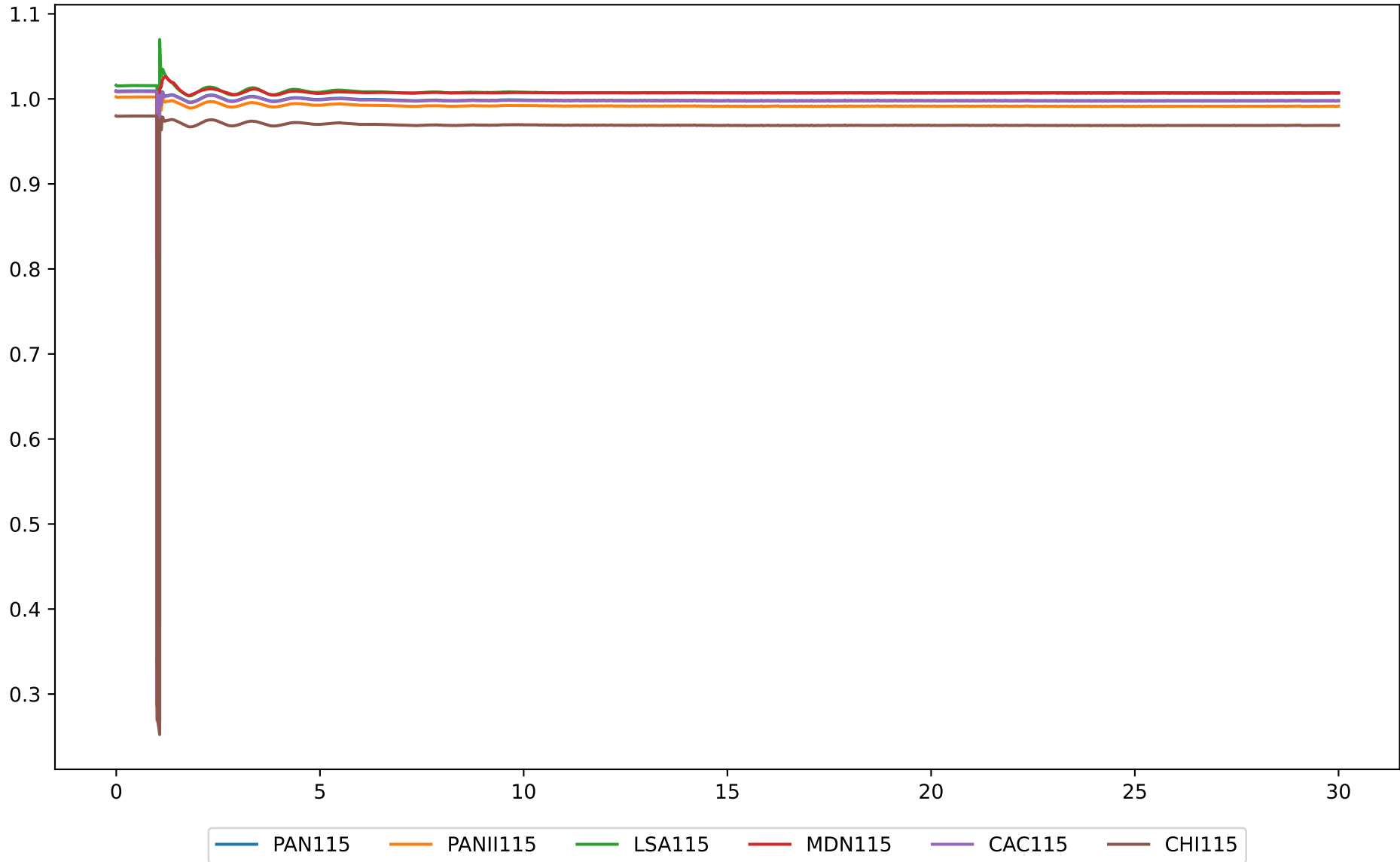
### Frecuencia (Hz)



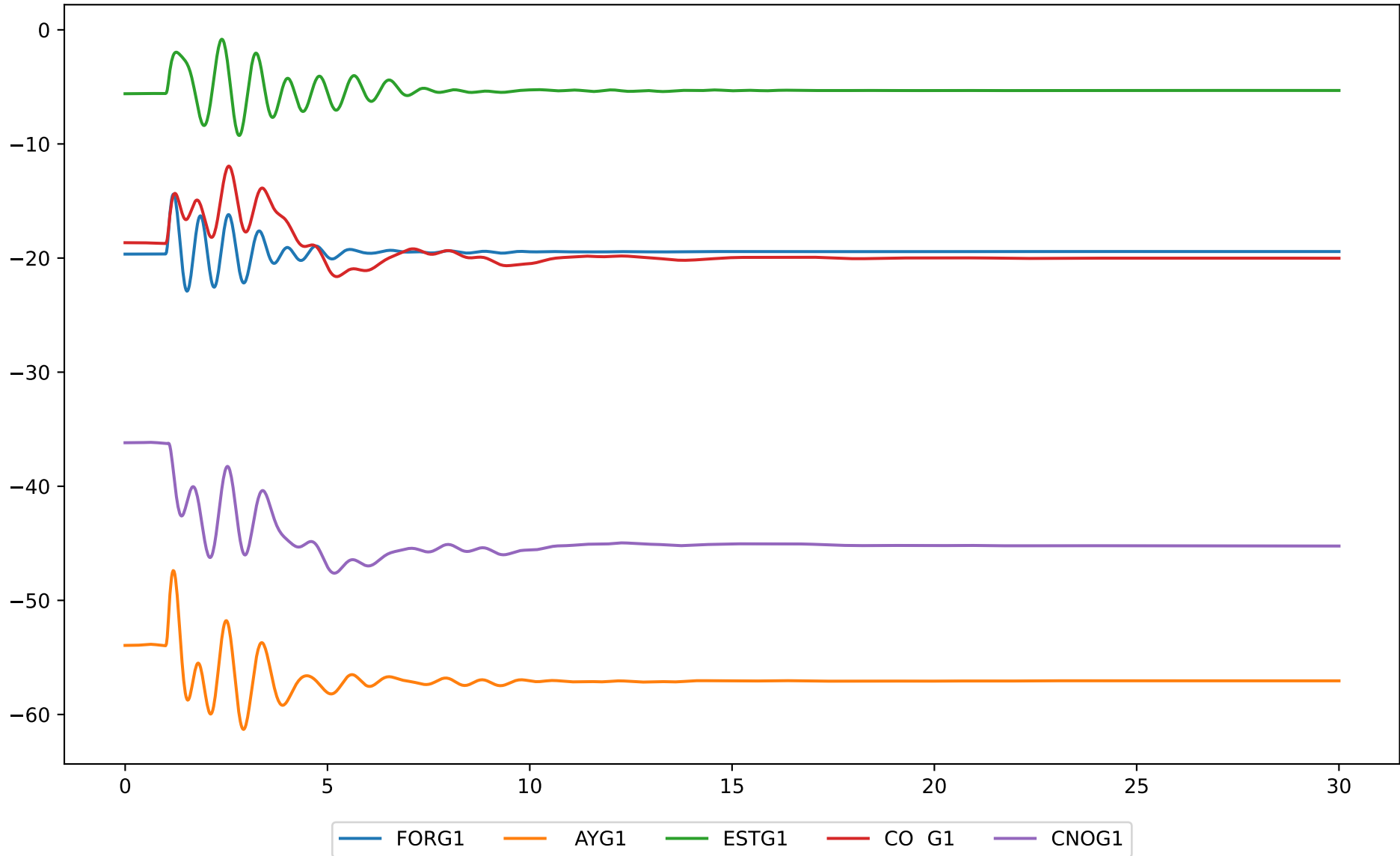
# Voltajes 230kV - Panama



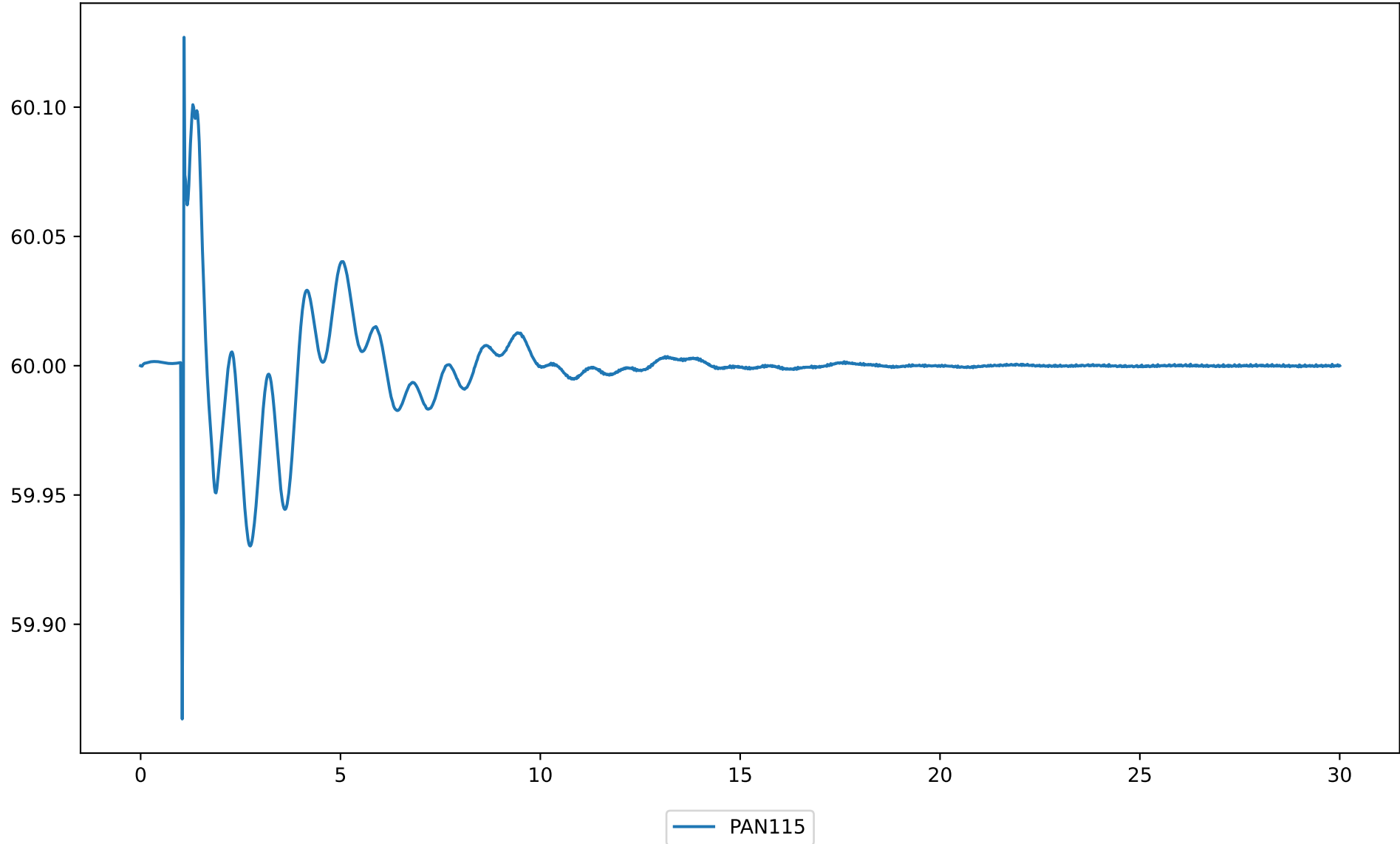
### Voltajes 115kV - Panama



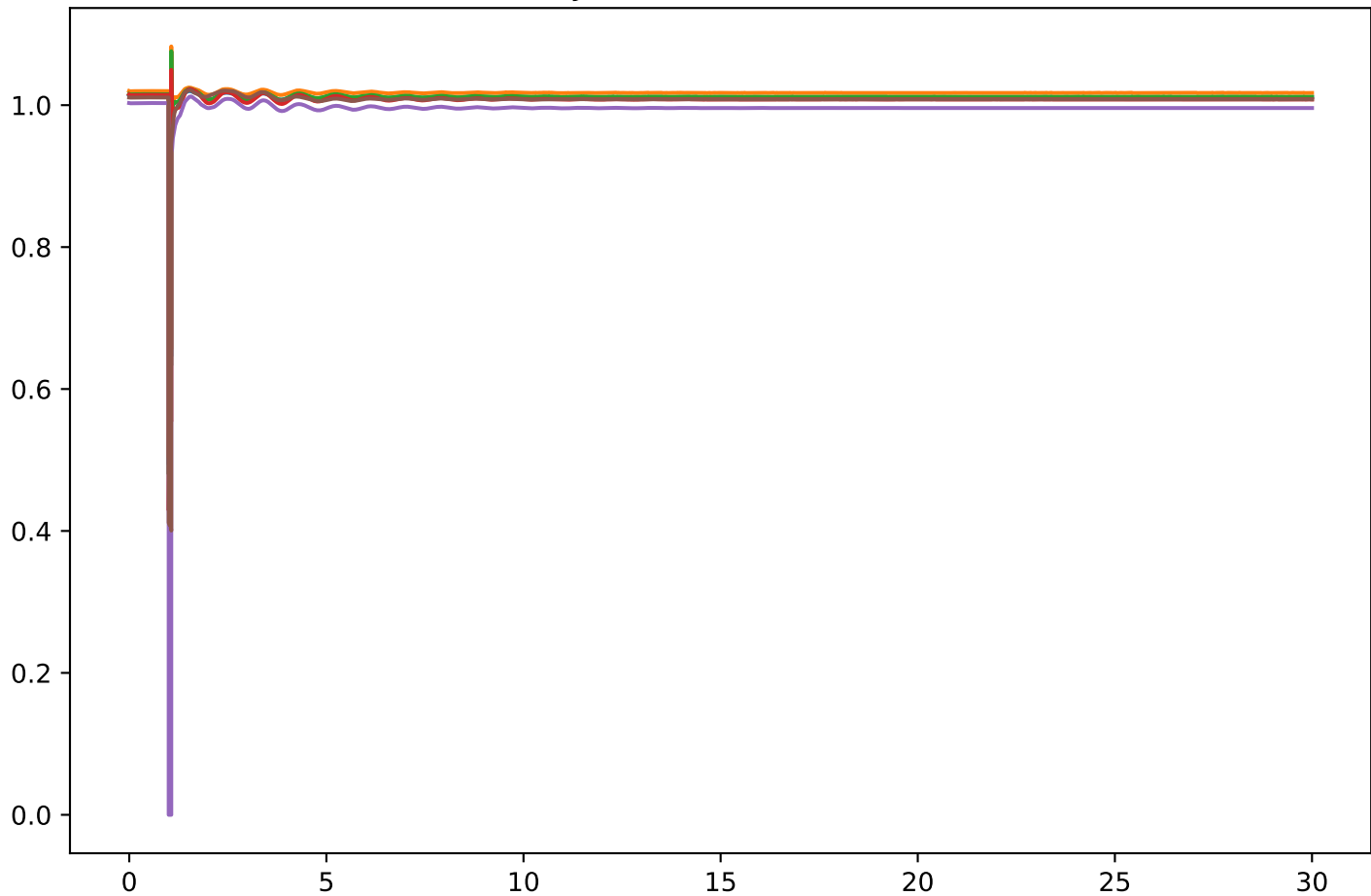
### Angulos de Rotacion de Maquinas - Panama



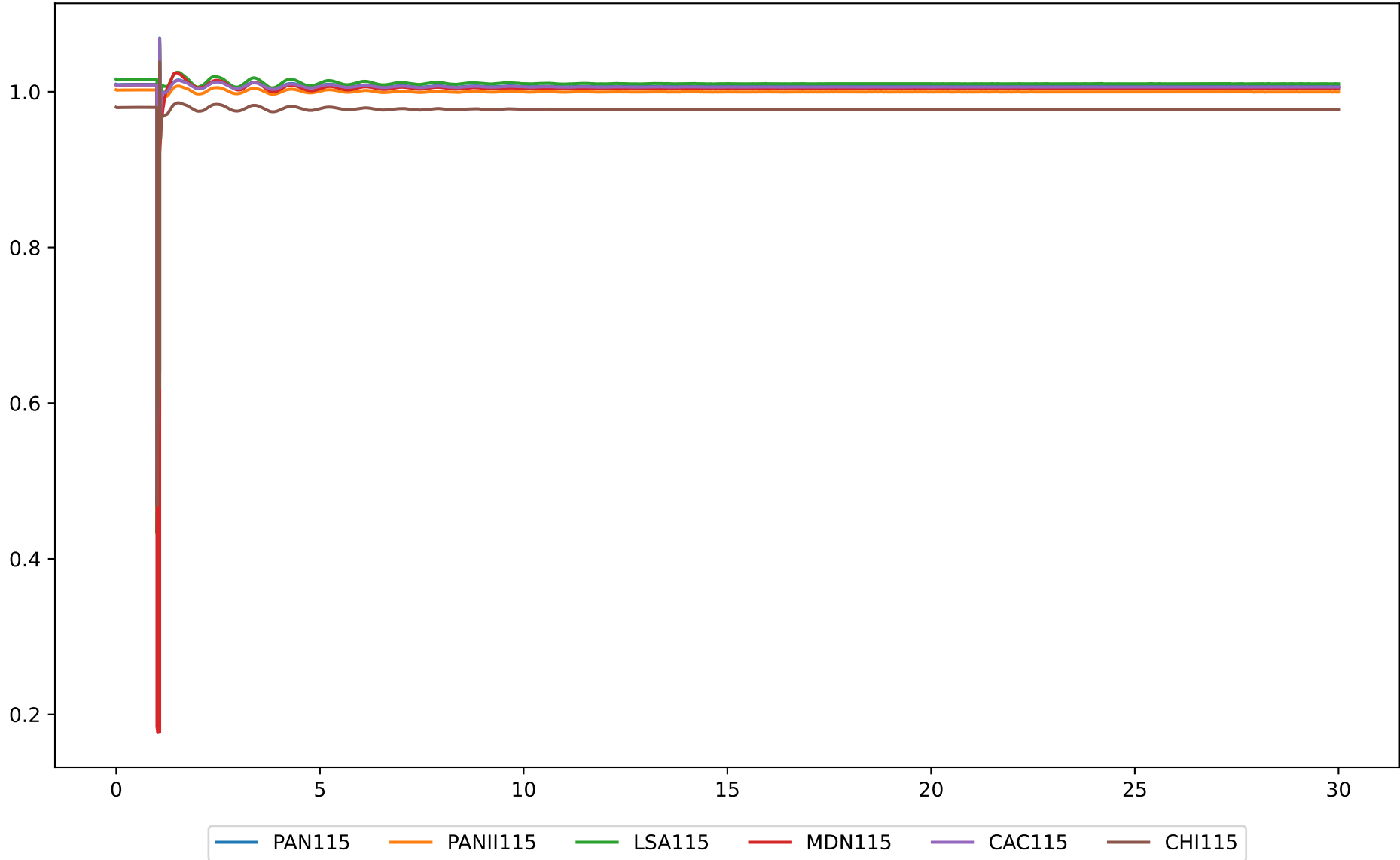
### Frecuencia (Hz)



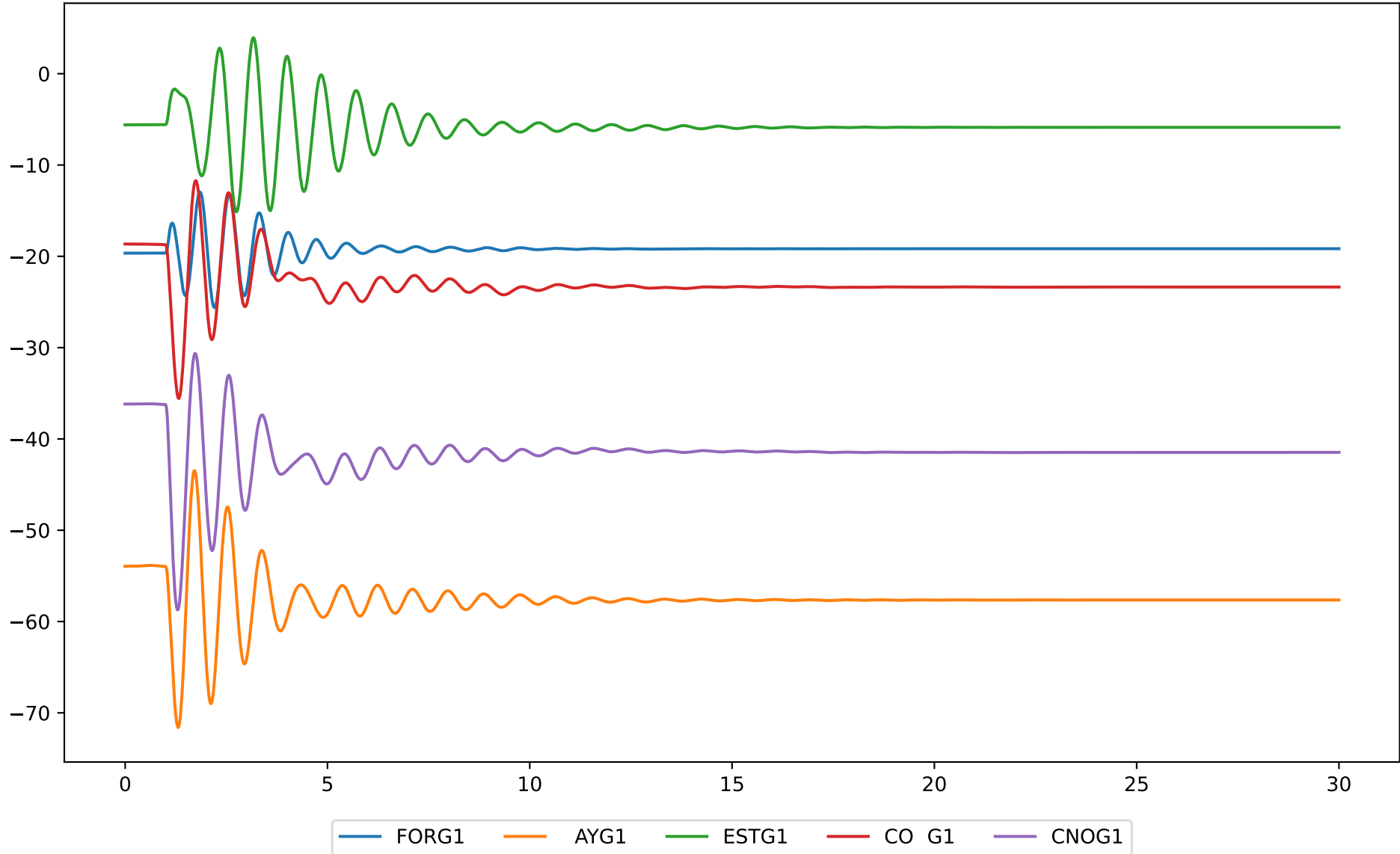
# Voltajes 230kV - Panama



### Voltajes 115kV - Panama

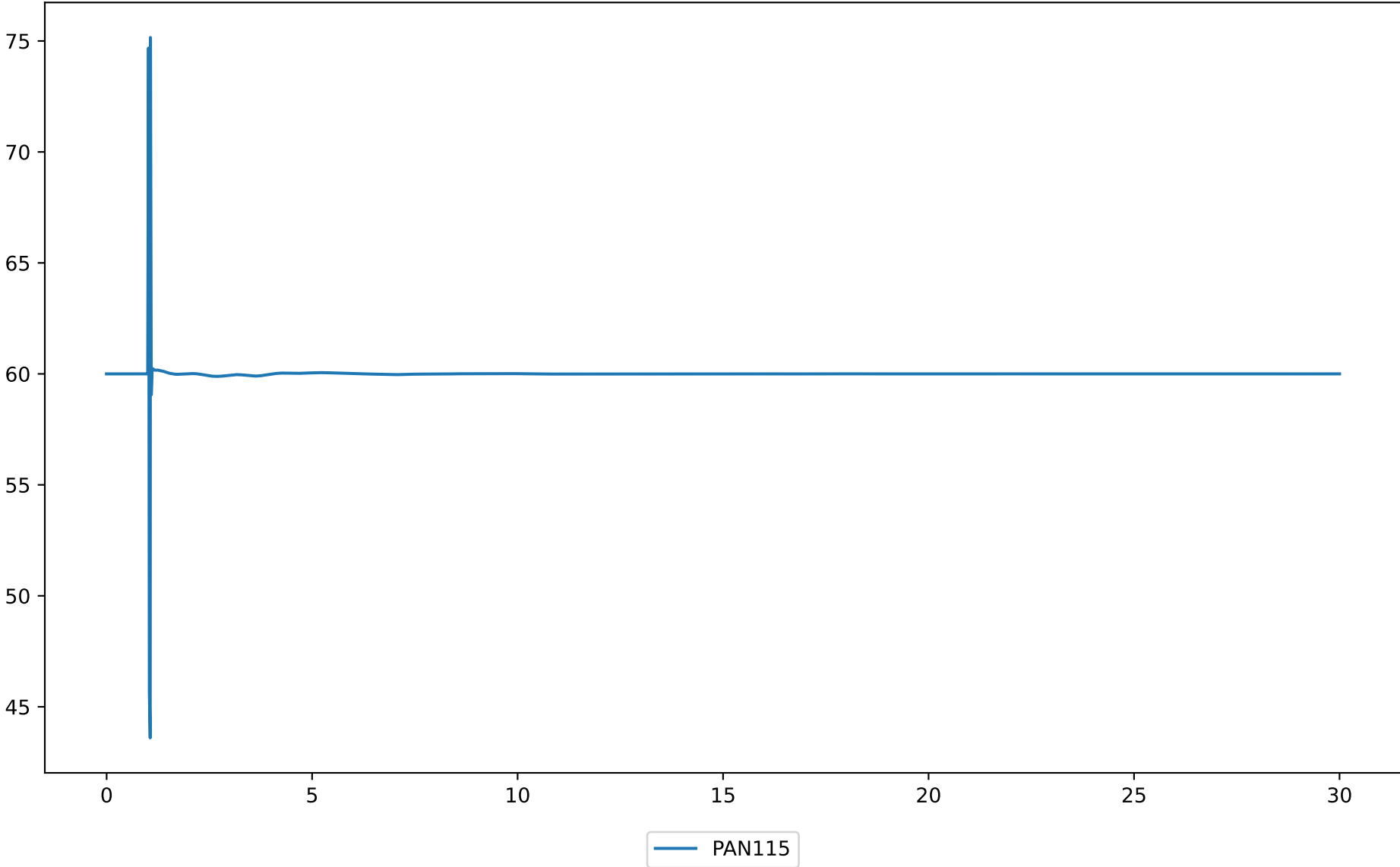


### Angulos de Rotacion de Maquinas - Panama

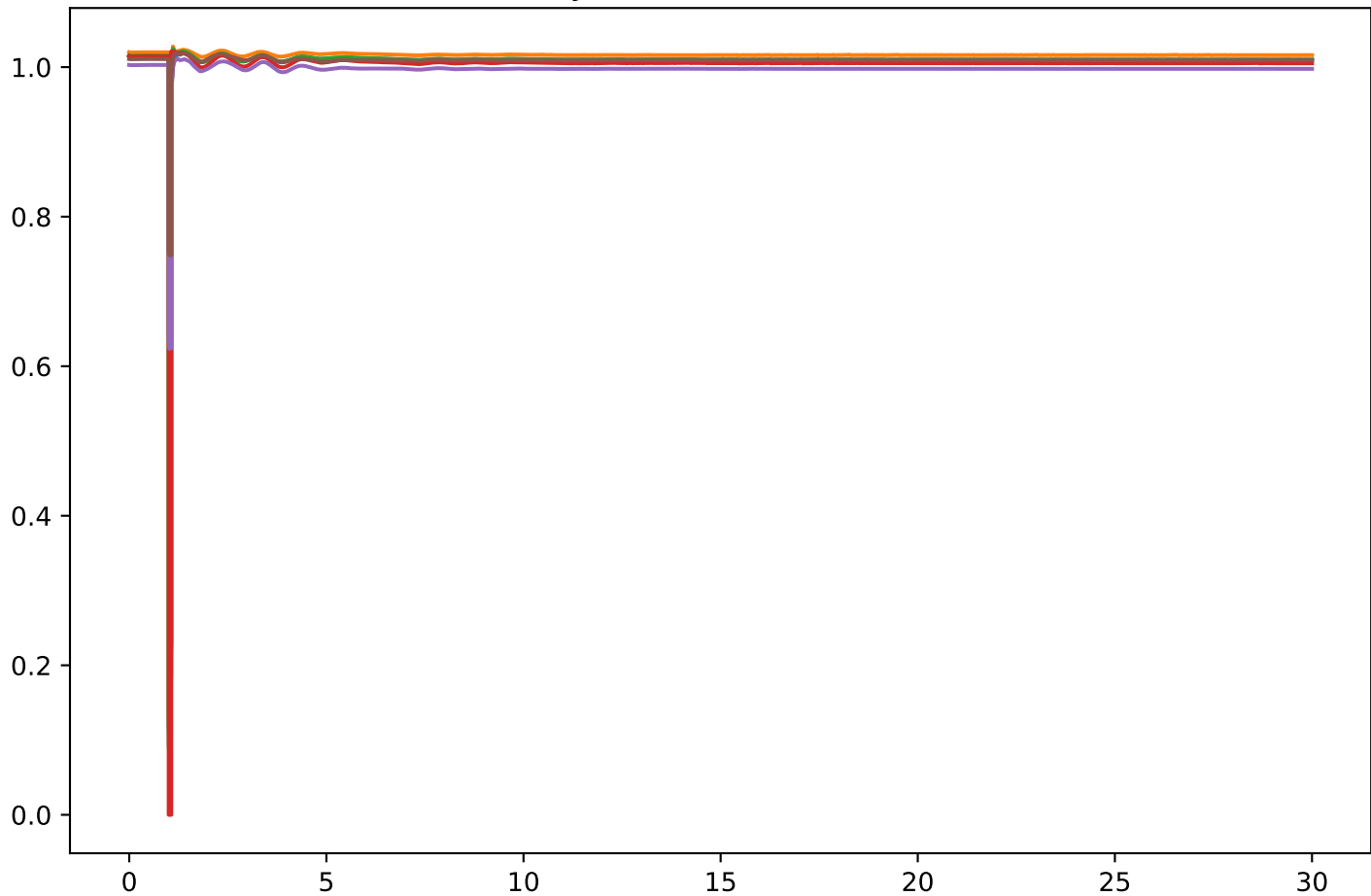




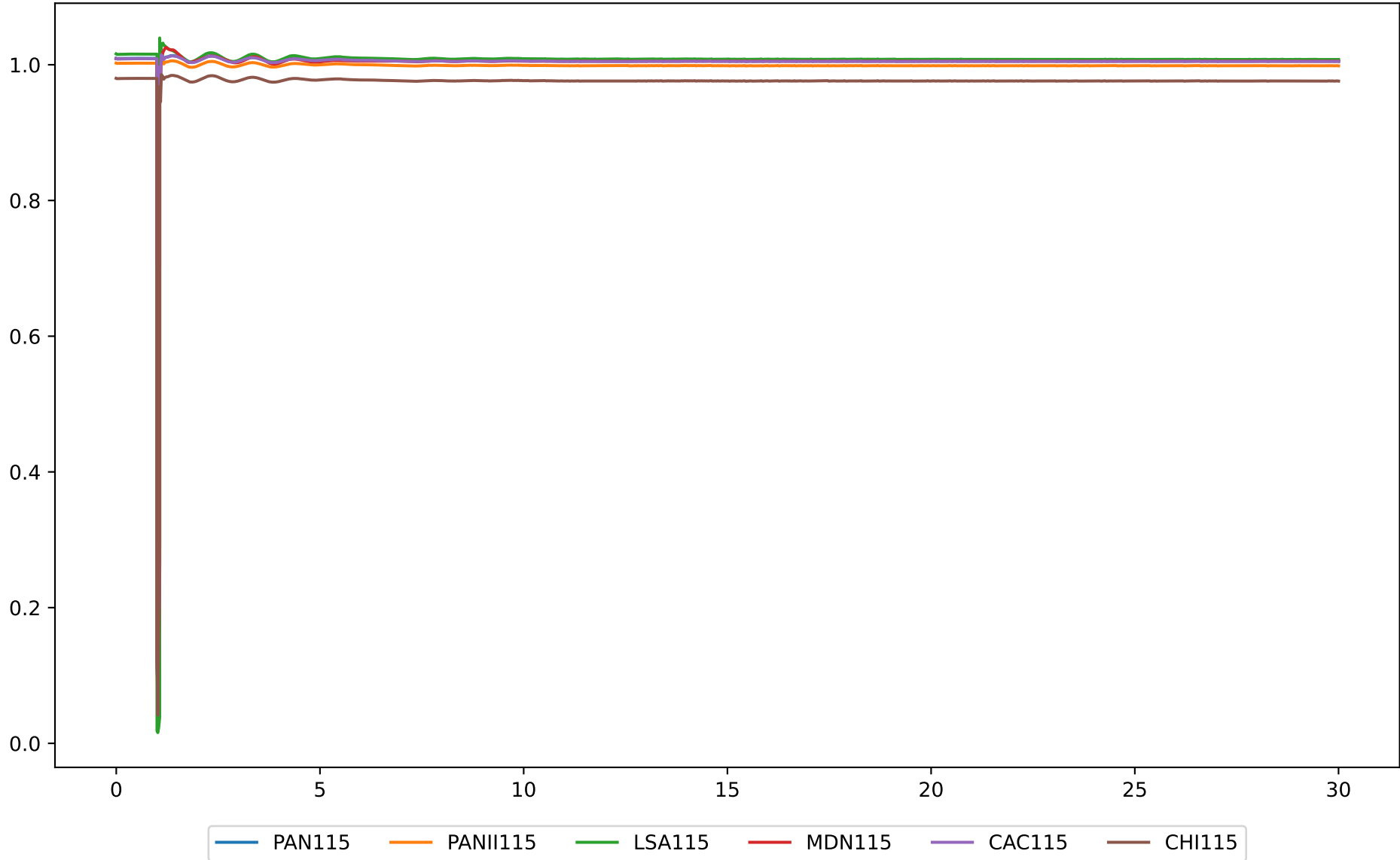
### Frecuencia (Hz)



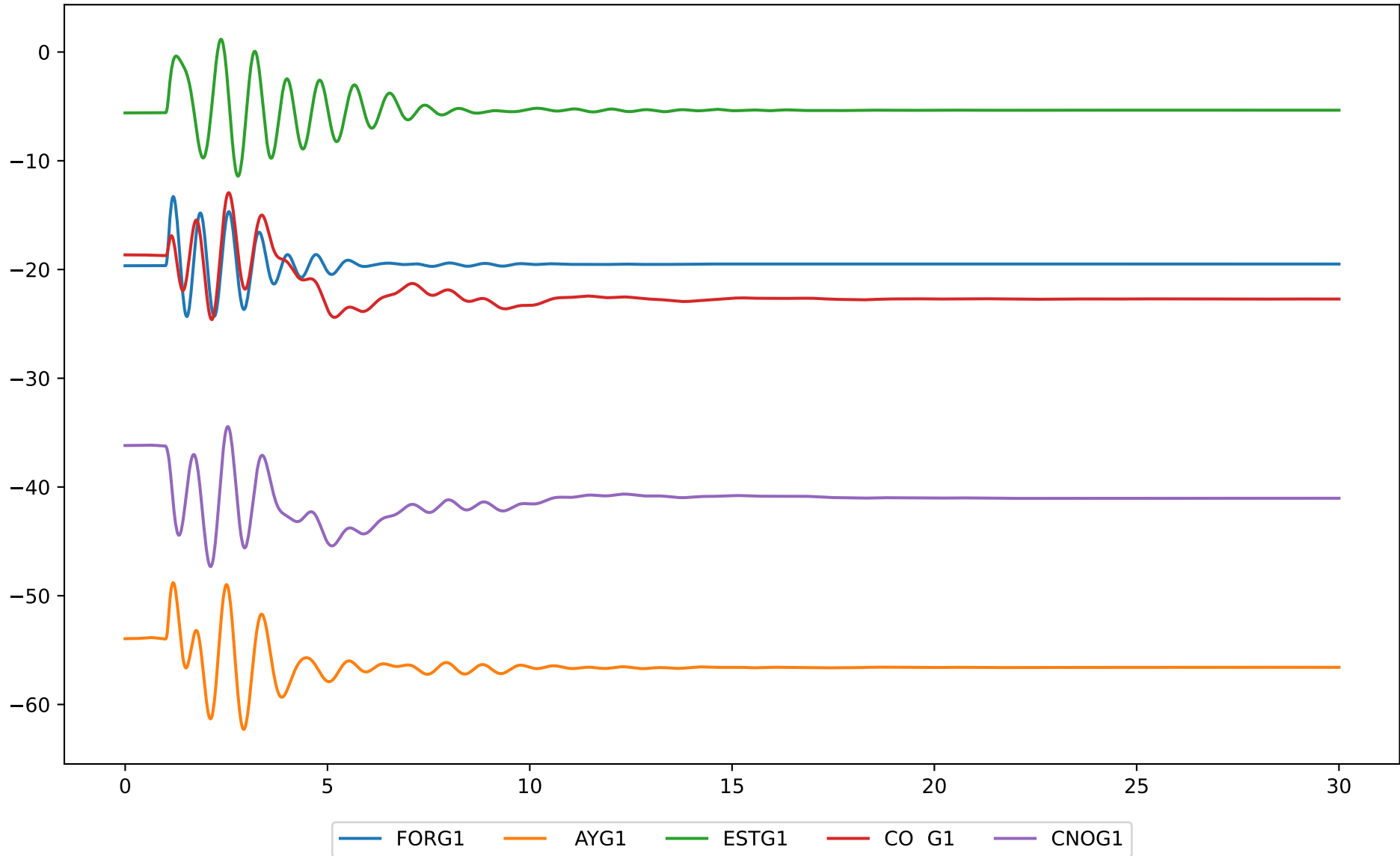
# Voltajes 230kV - Panama



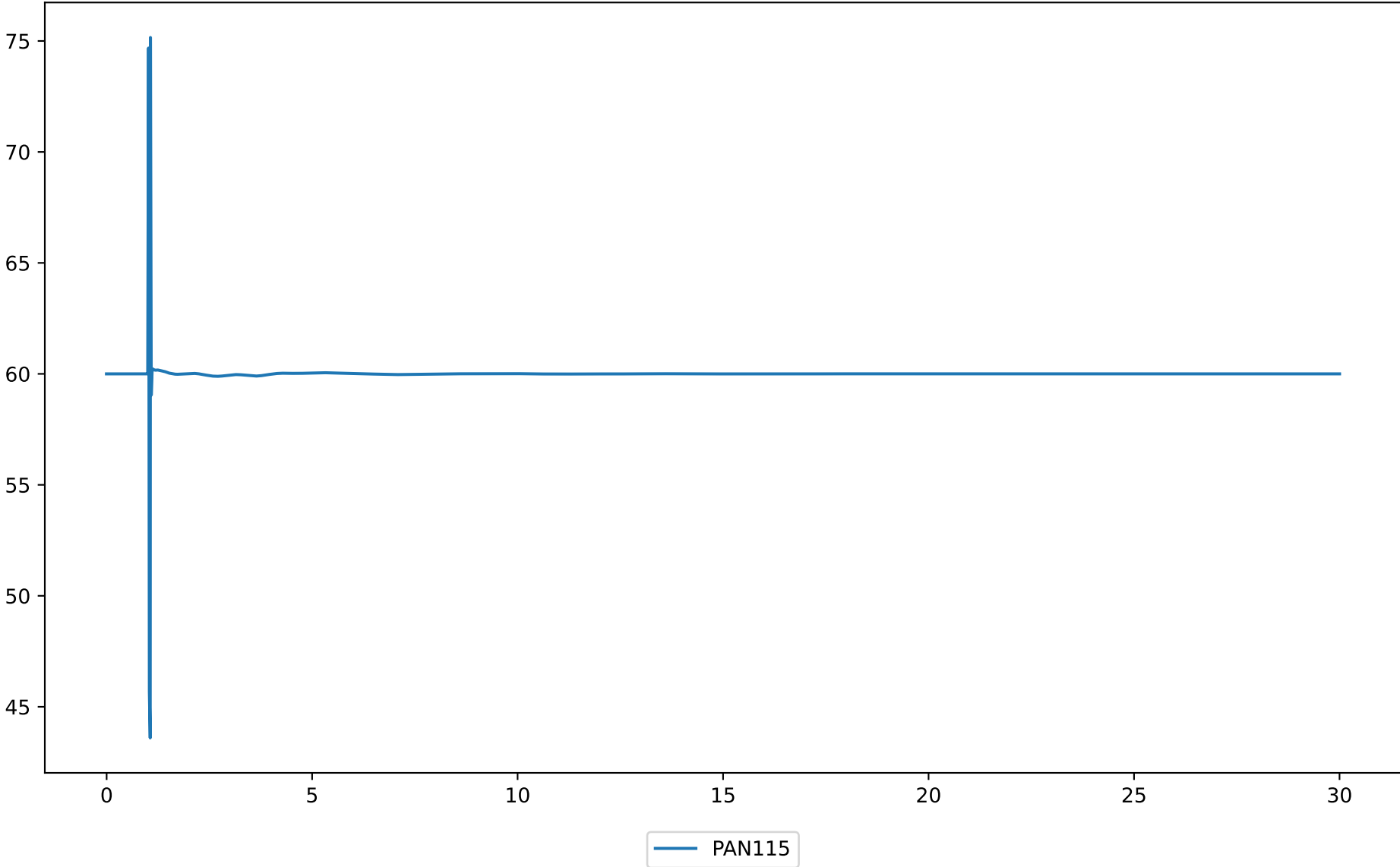
### Voltajes 115kV - Panama



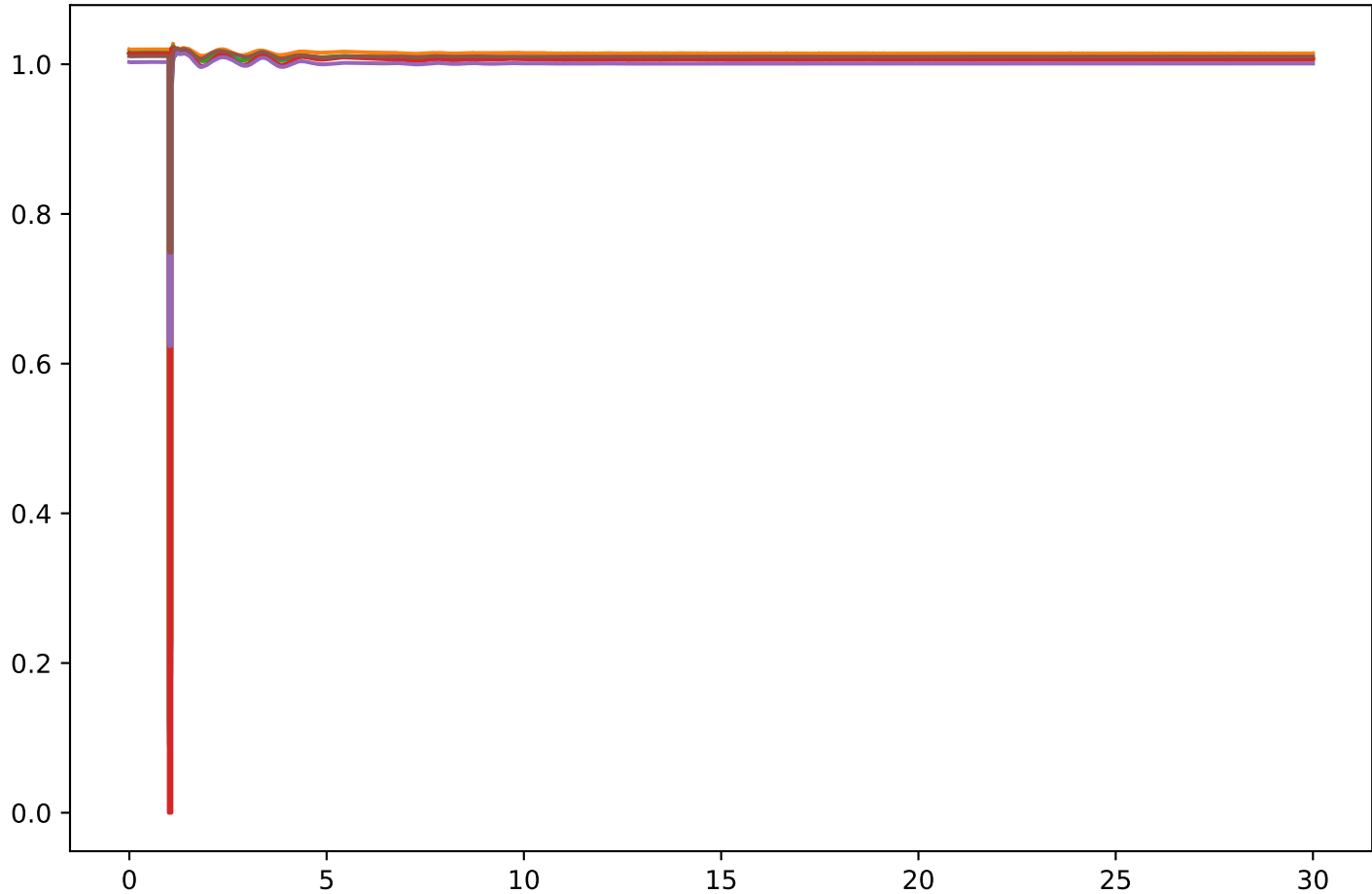
### Angulos de Rotacion de Maquinas - Panama



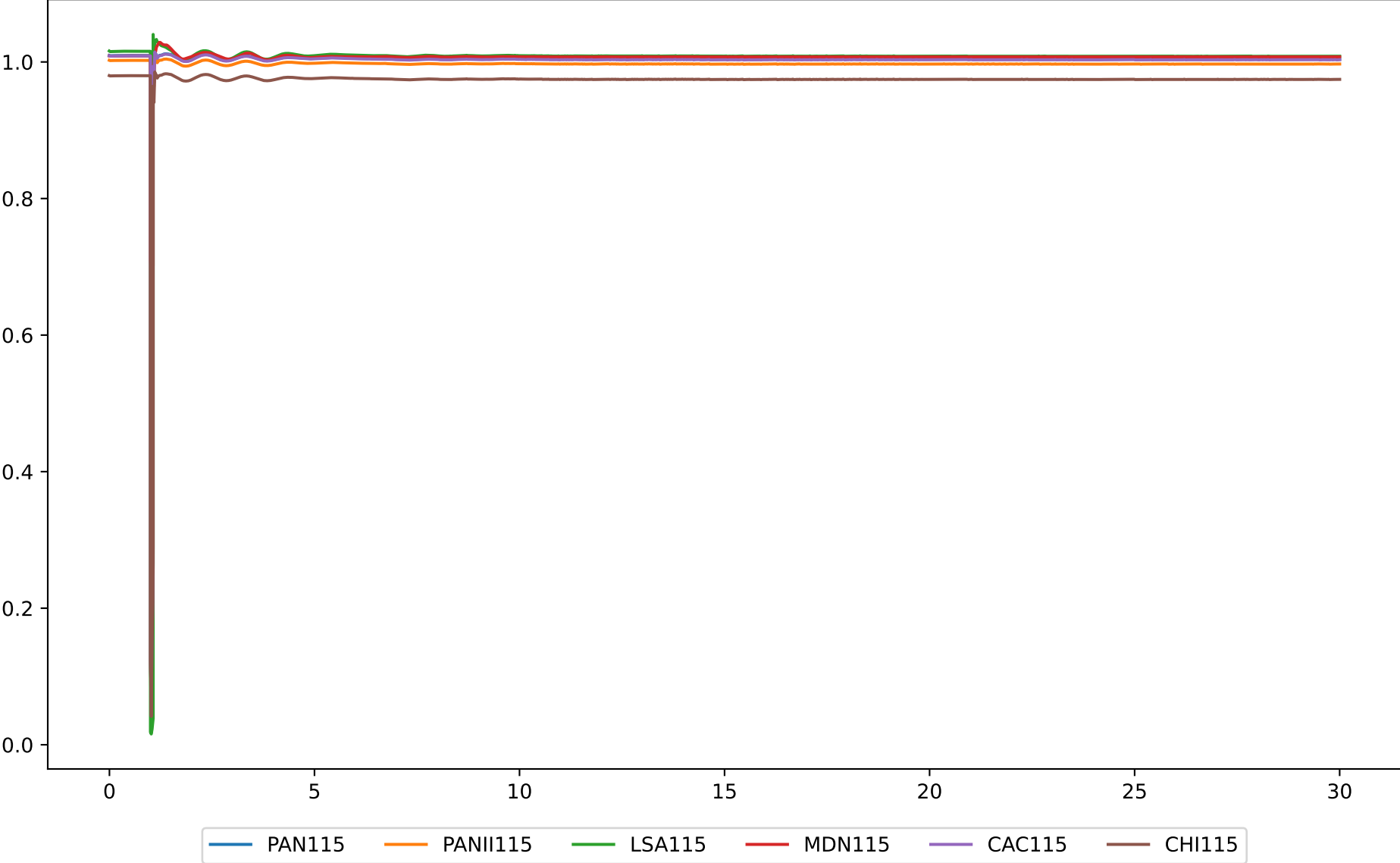
### Frecuencia (Hz)



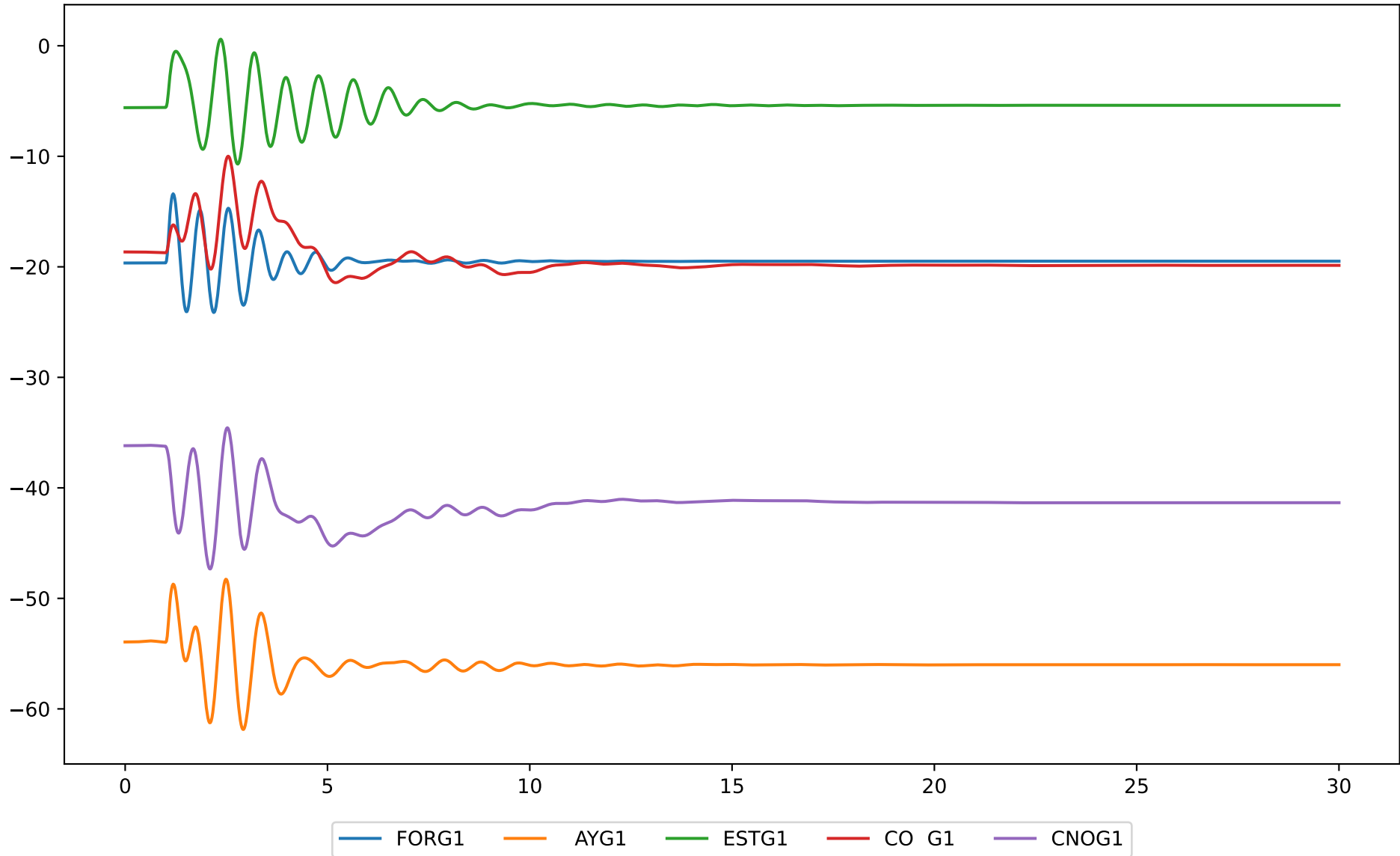
# Voltajes 230kV - Panama



### Voltajes 115kV - Panama



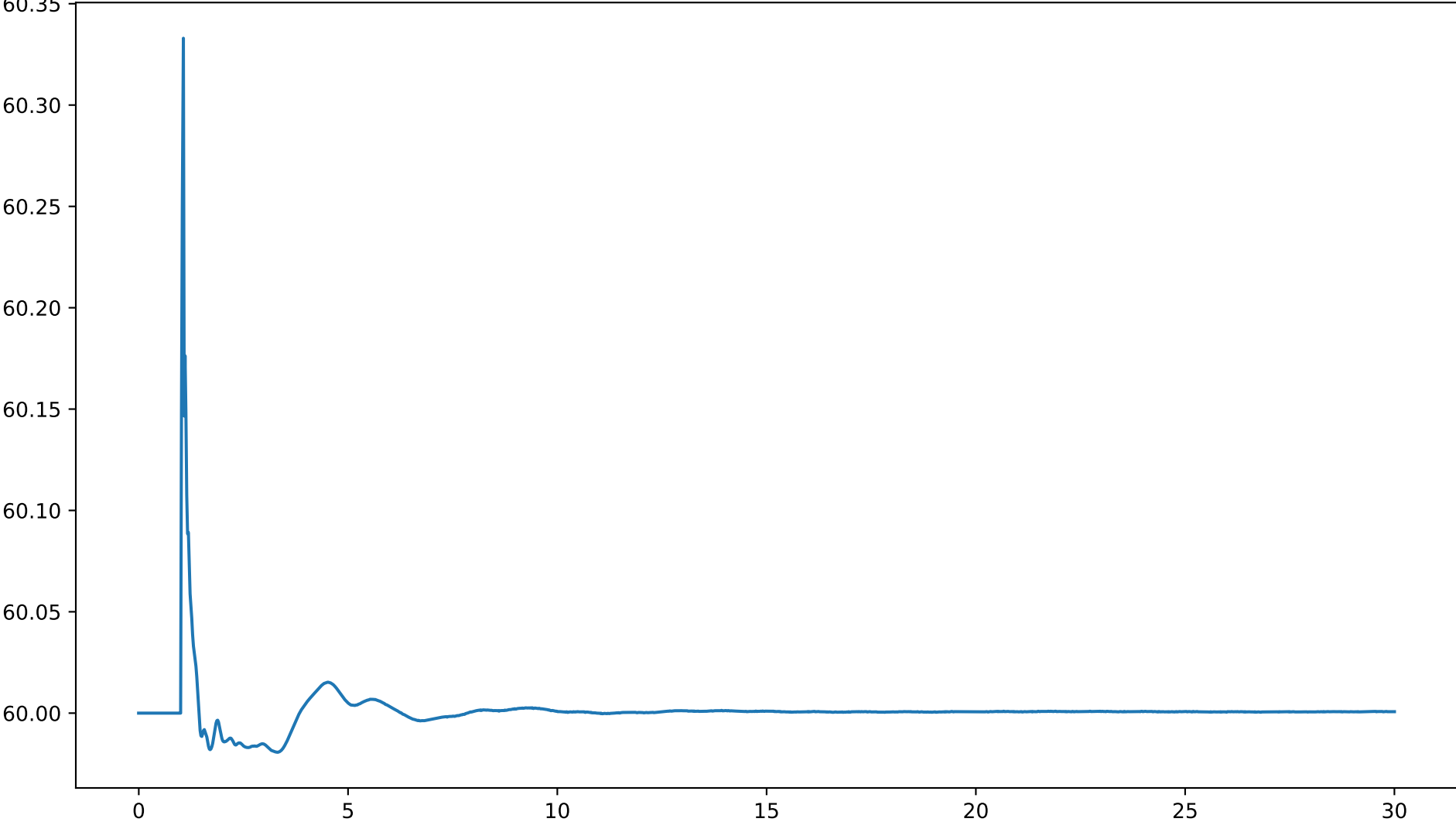
### Angulos de Rotacion de Maquinas - Panama





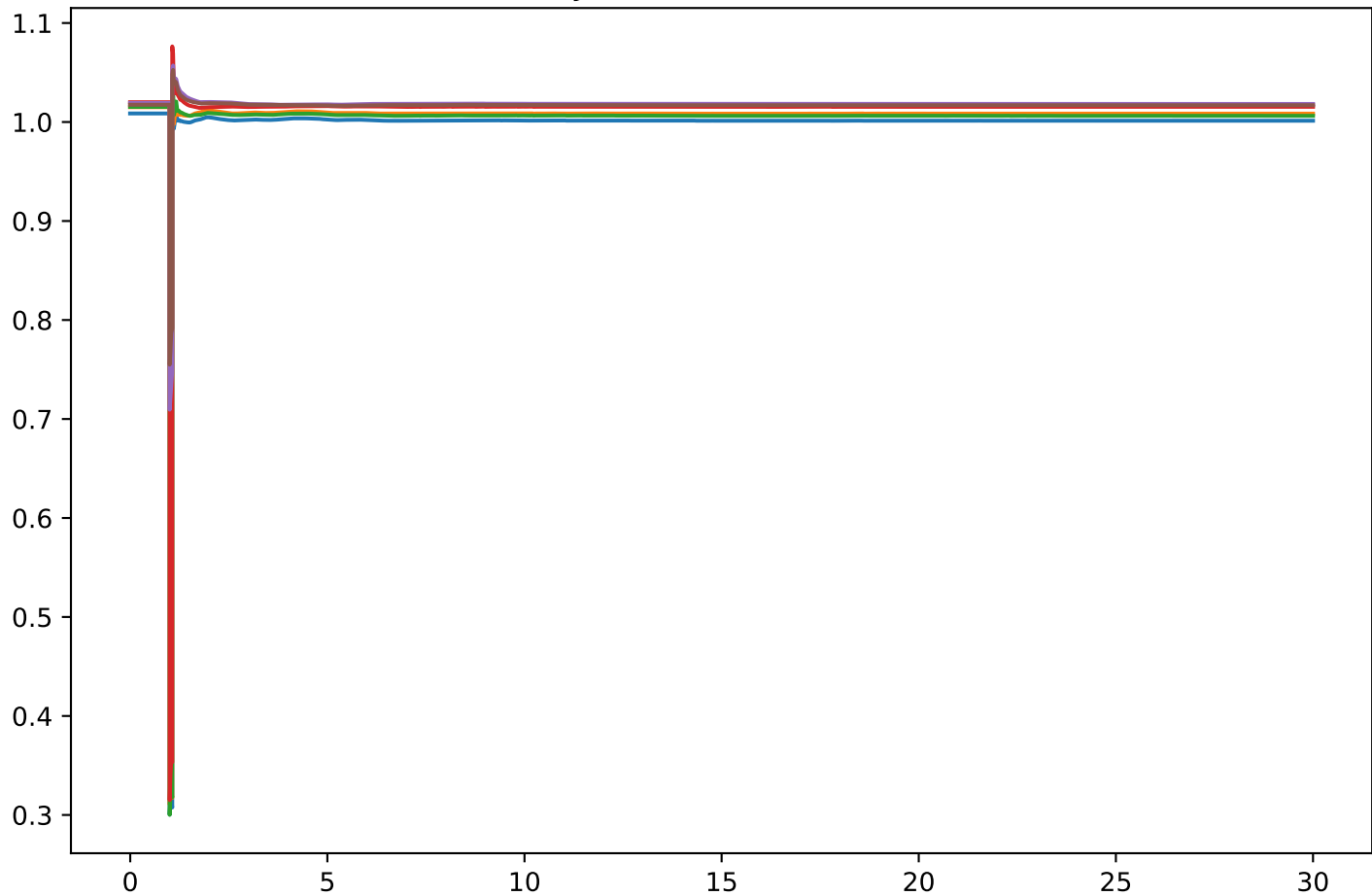
**2025 SECA**

### Frecuencia (Hz)

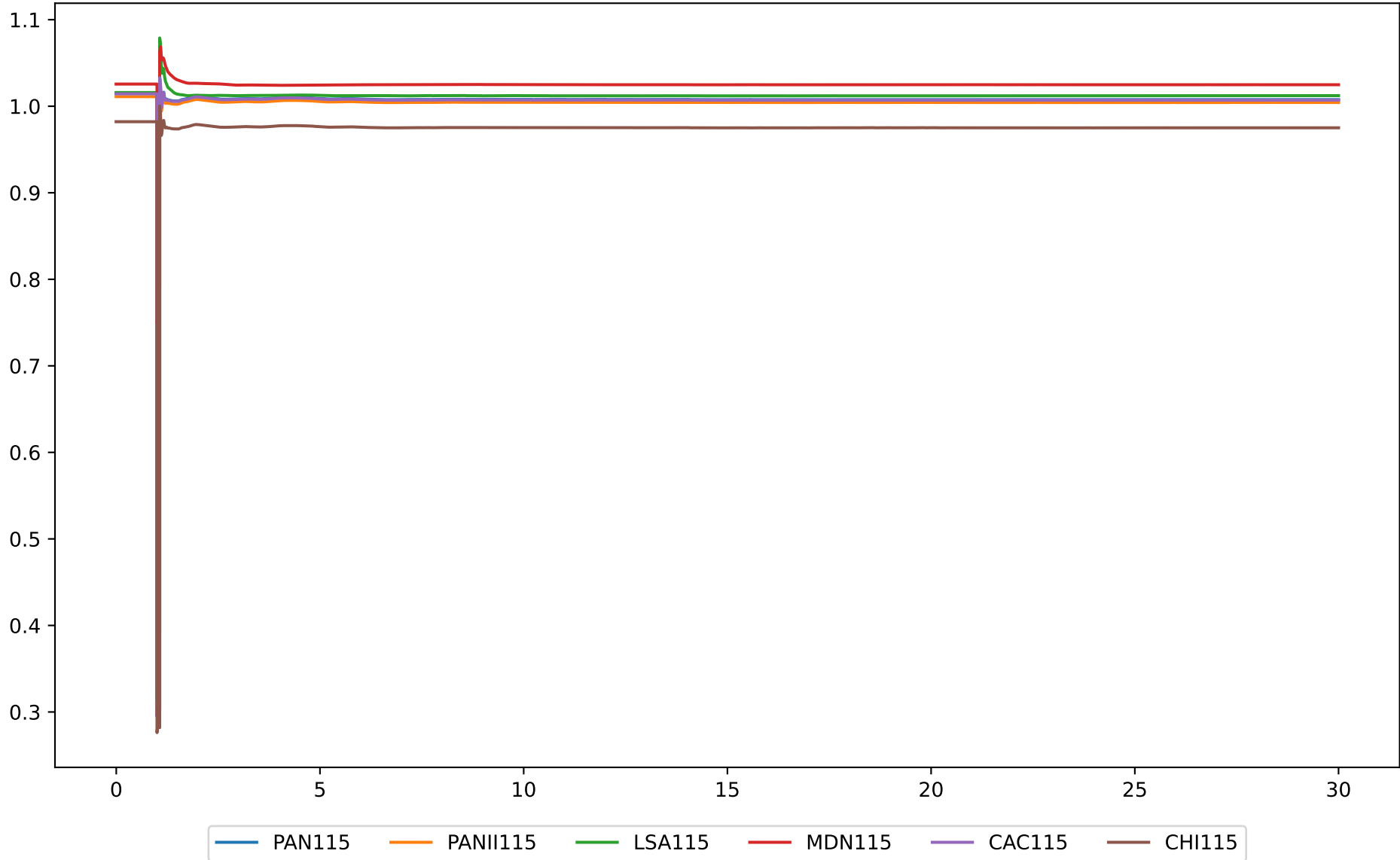


PAN115

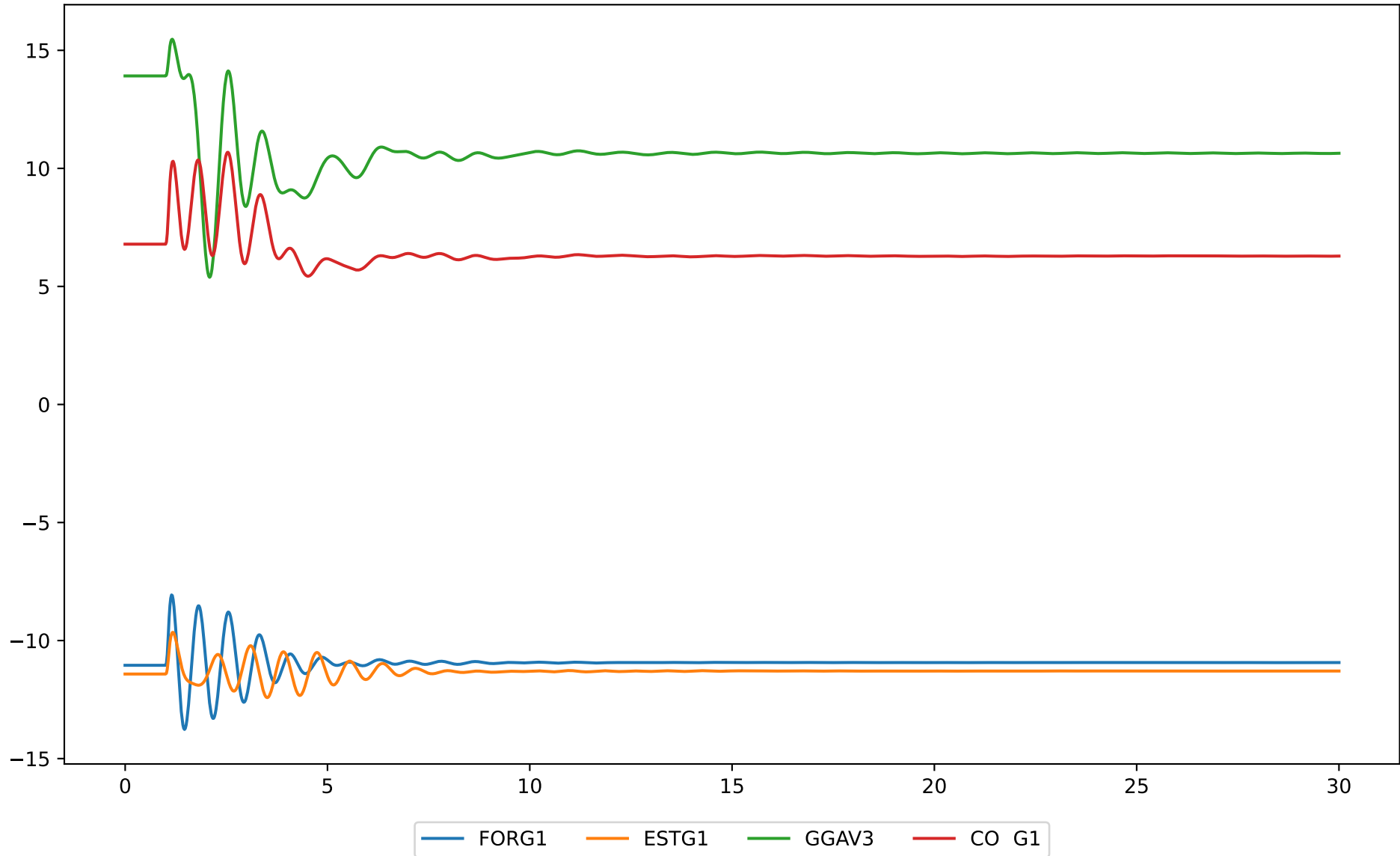
# Voltajes 230kV - Panama



### Voltajes 115kV - Panama

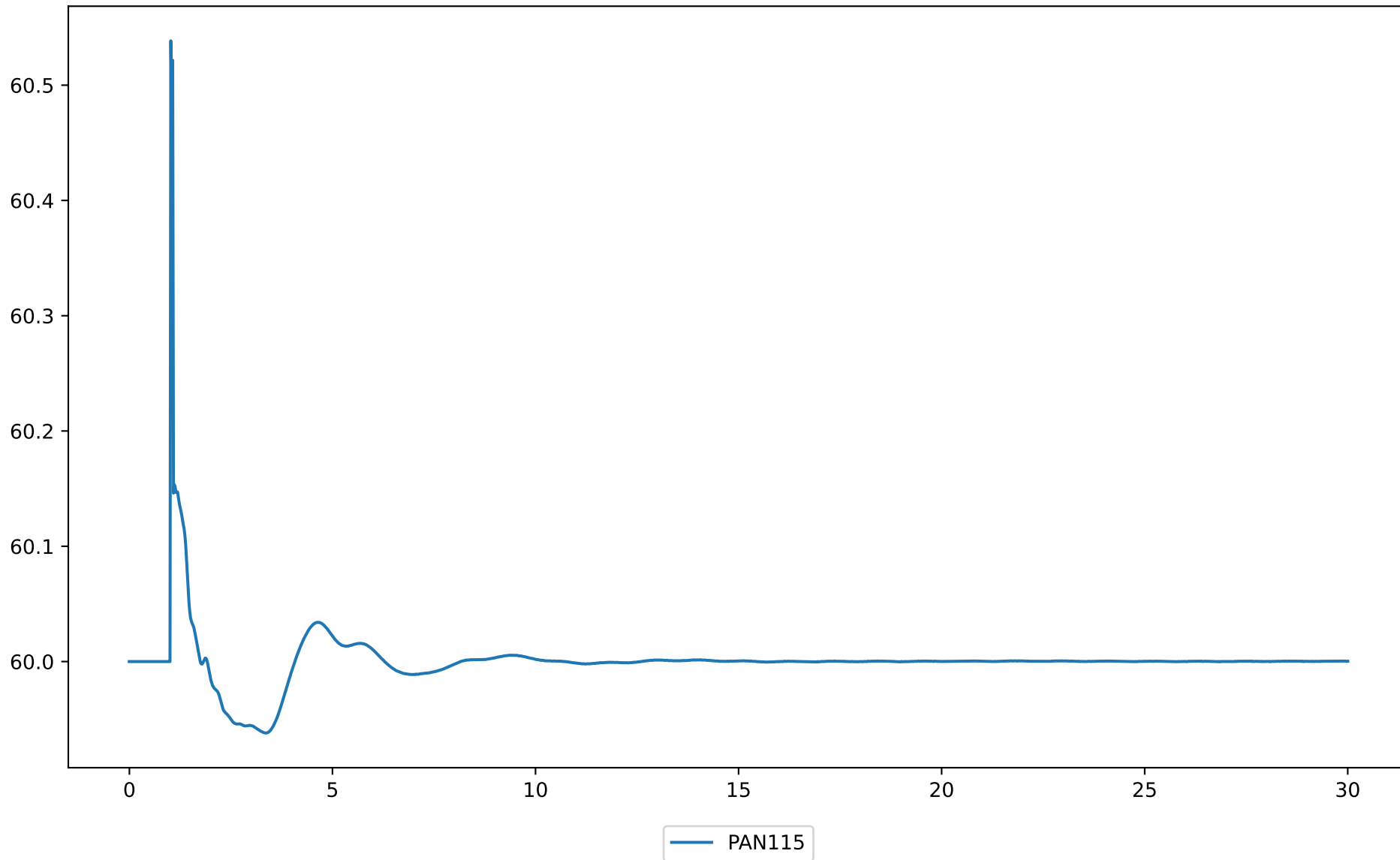


### Angulos de Rotacion de Maquinas - Panama

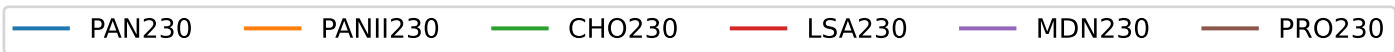
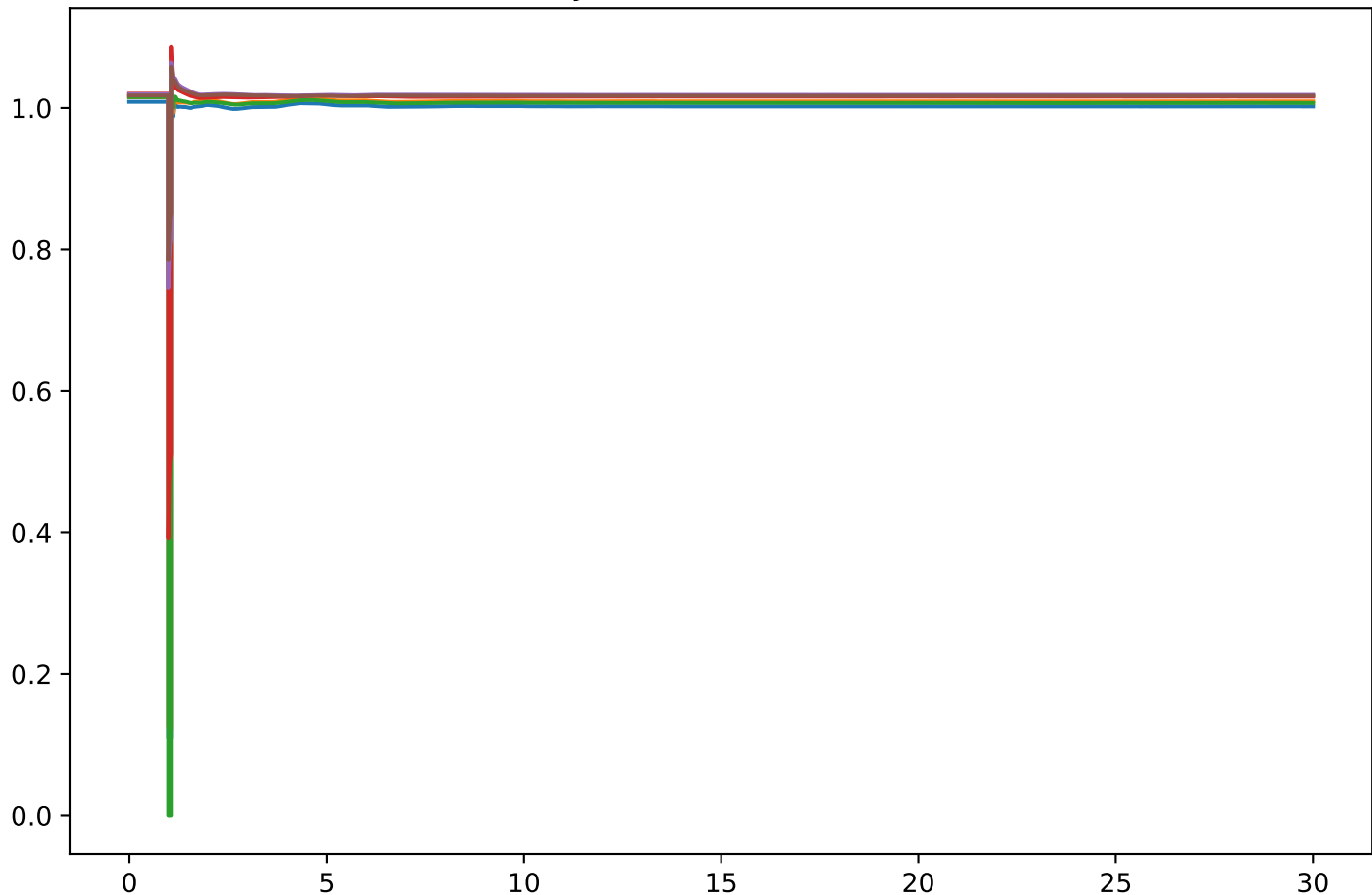


Caso: 523-5-2025CA\_ModMax\_Sec - Contingencia: 6005-6830-9A-C2\_CHO-ANT

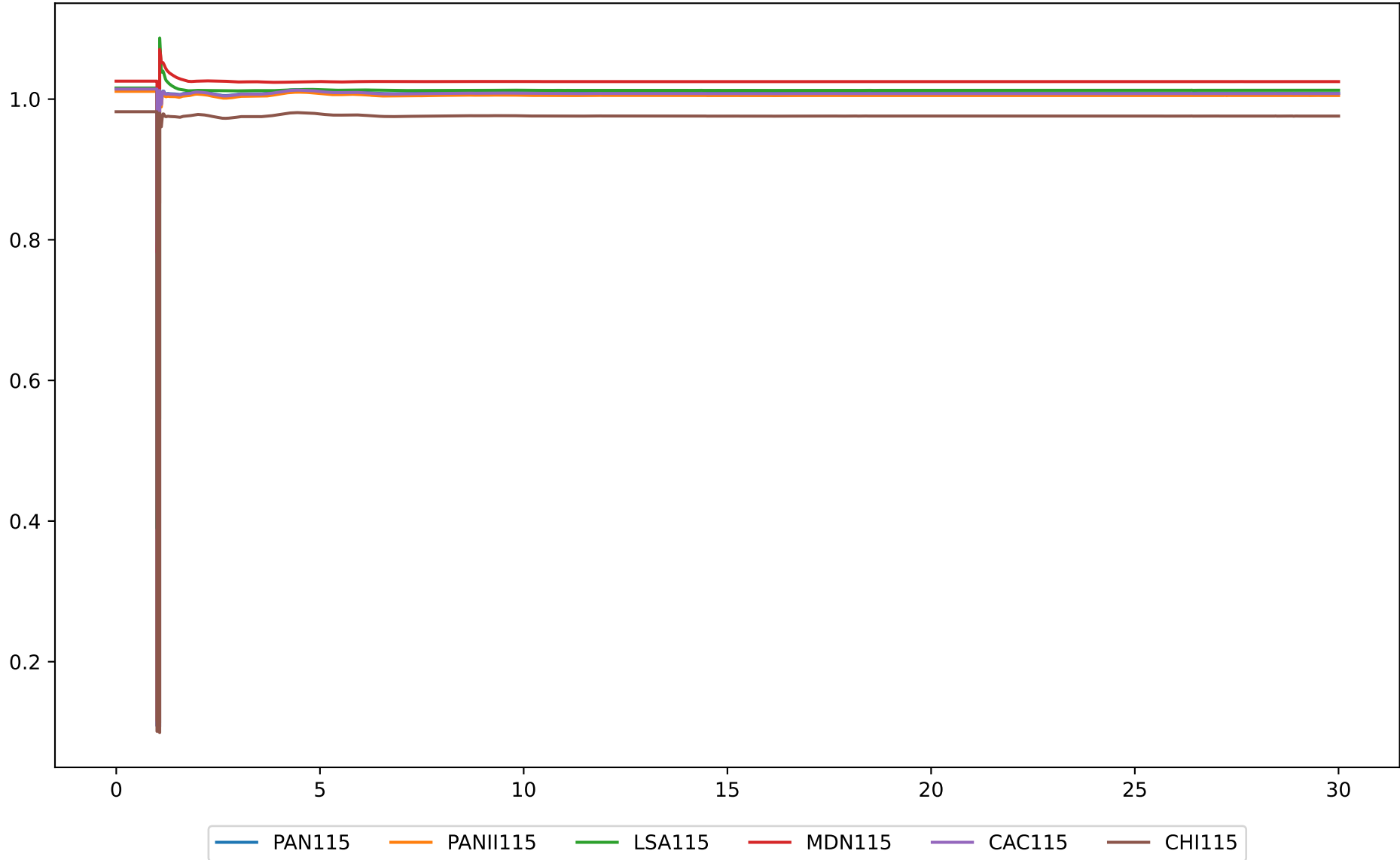
### Frecuencia (Hz)



# Voltajes 230kV - Panama

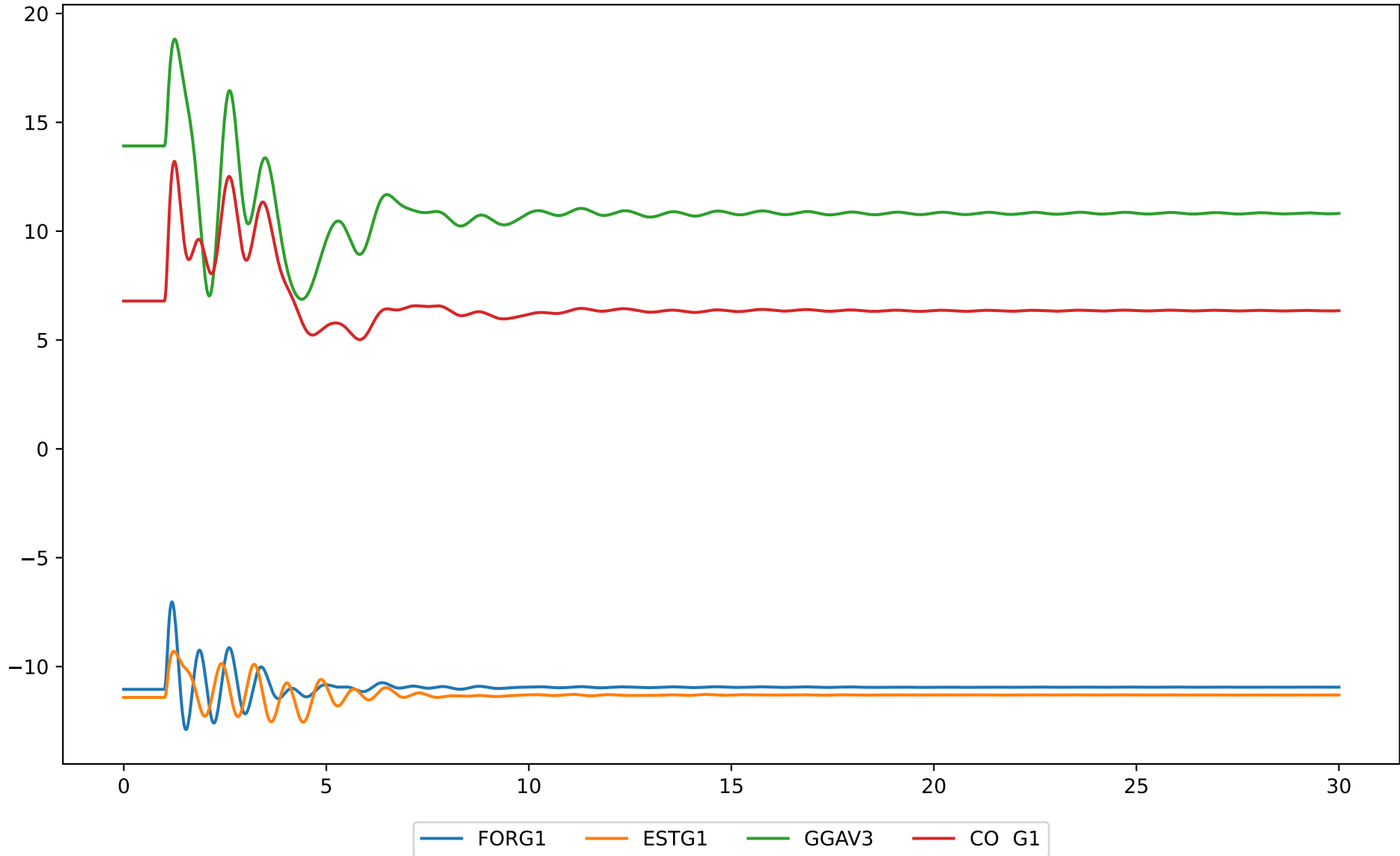


### Voltajes 115kV - Panama

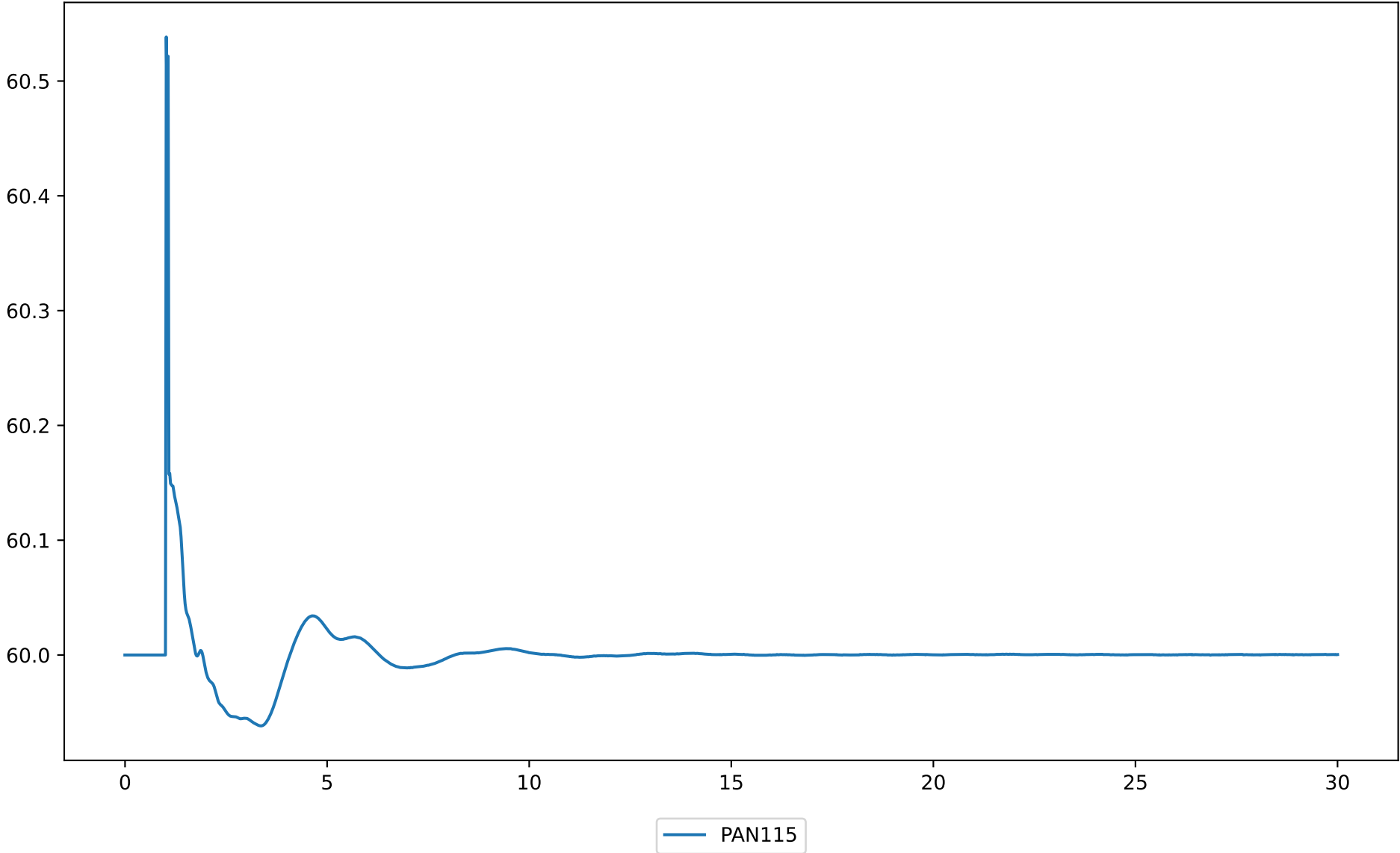




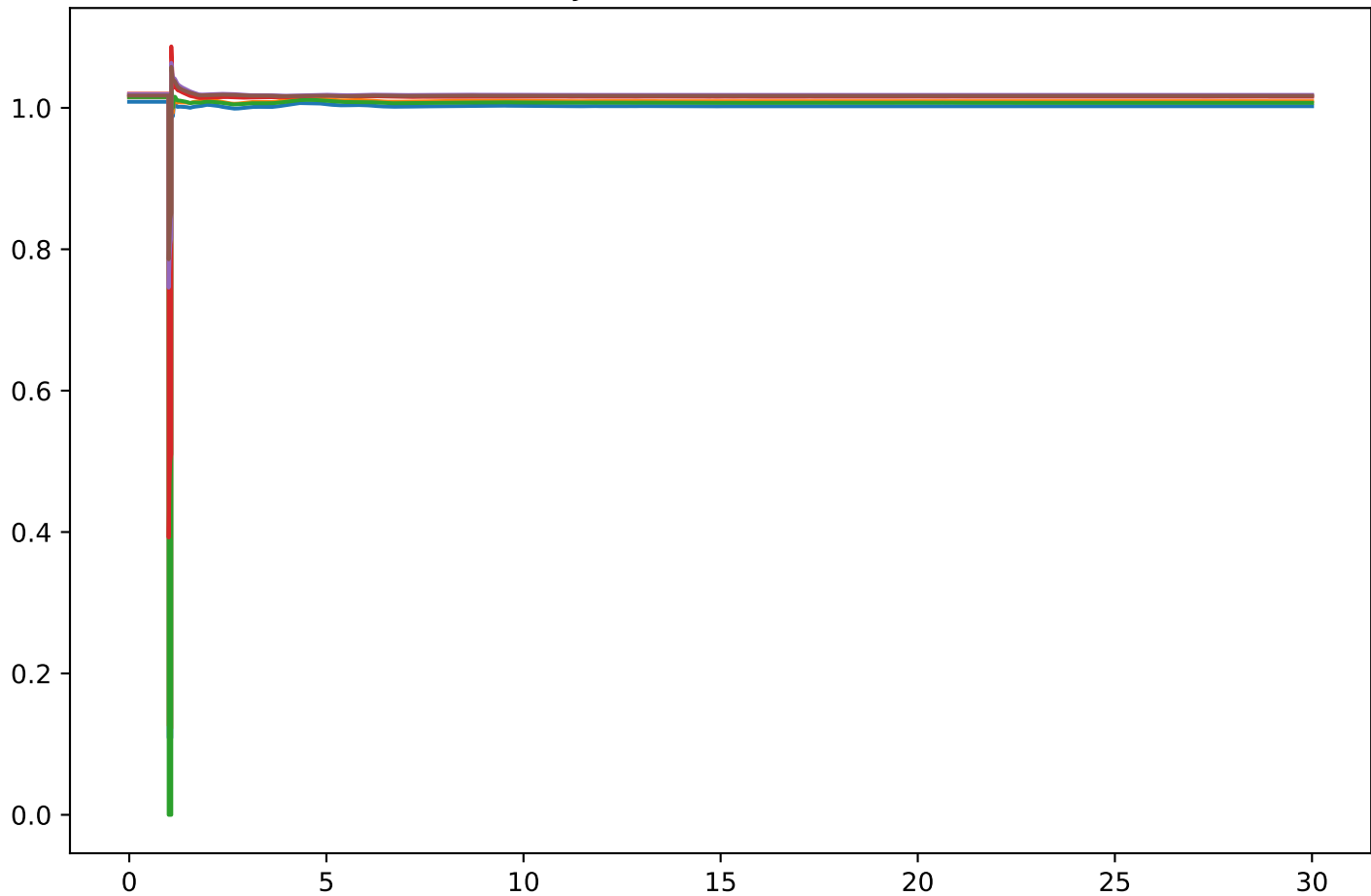
### Angulos de Rotacion de Maquinas - Panama



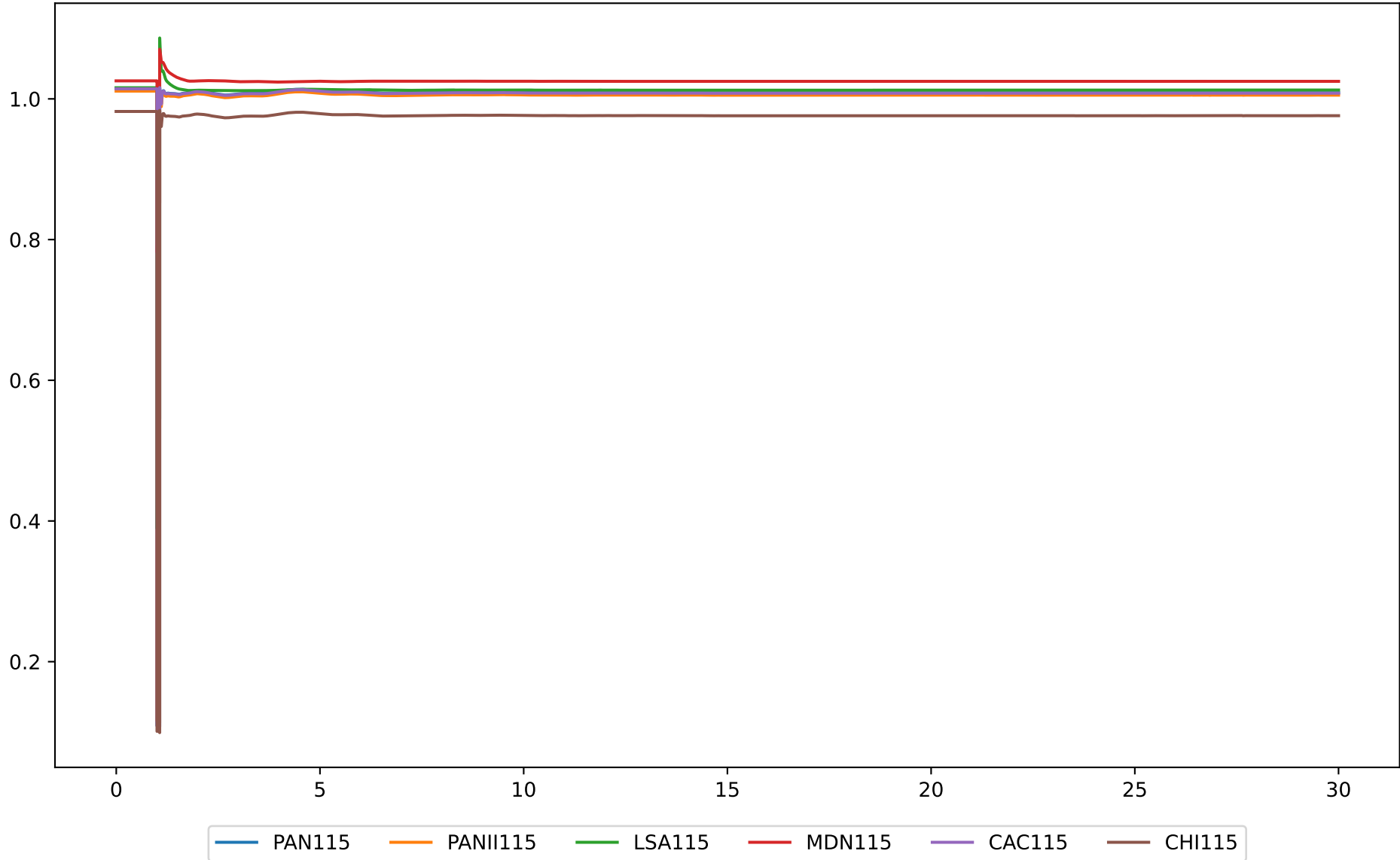
### Frecuencia (Hz)



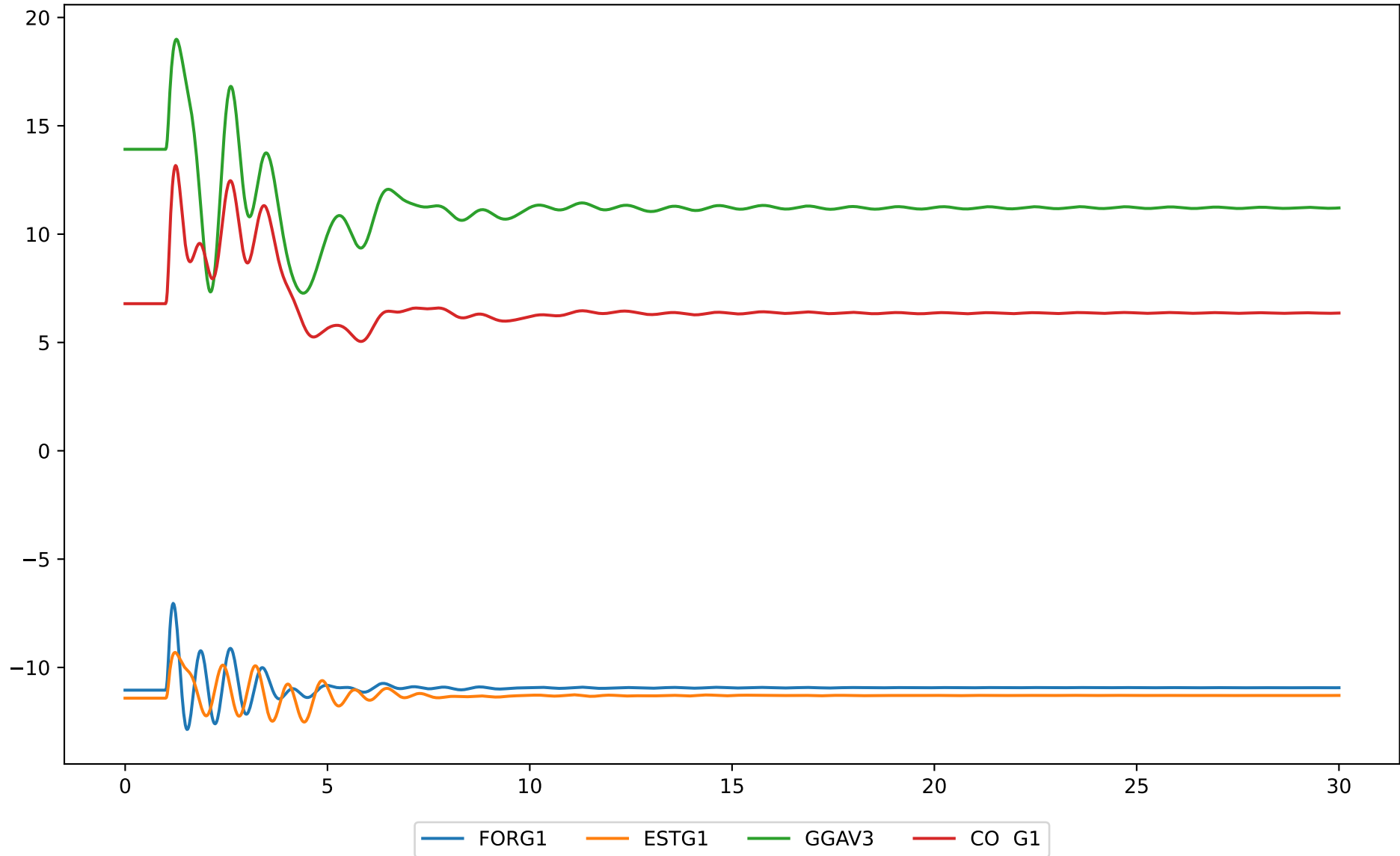
# Voltajes 230kV - Panama



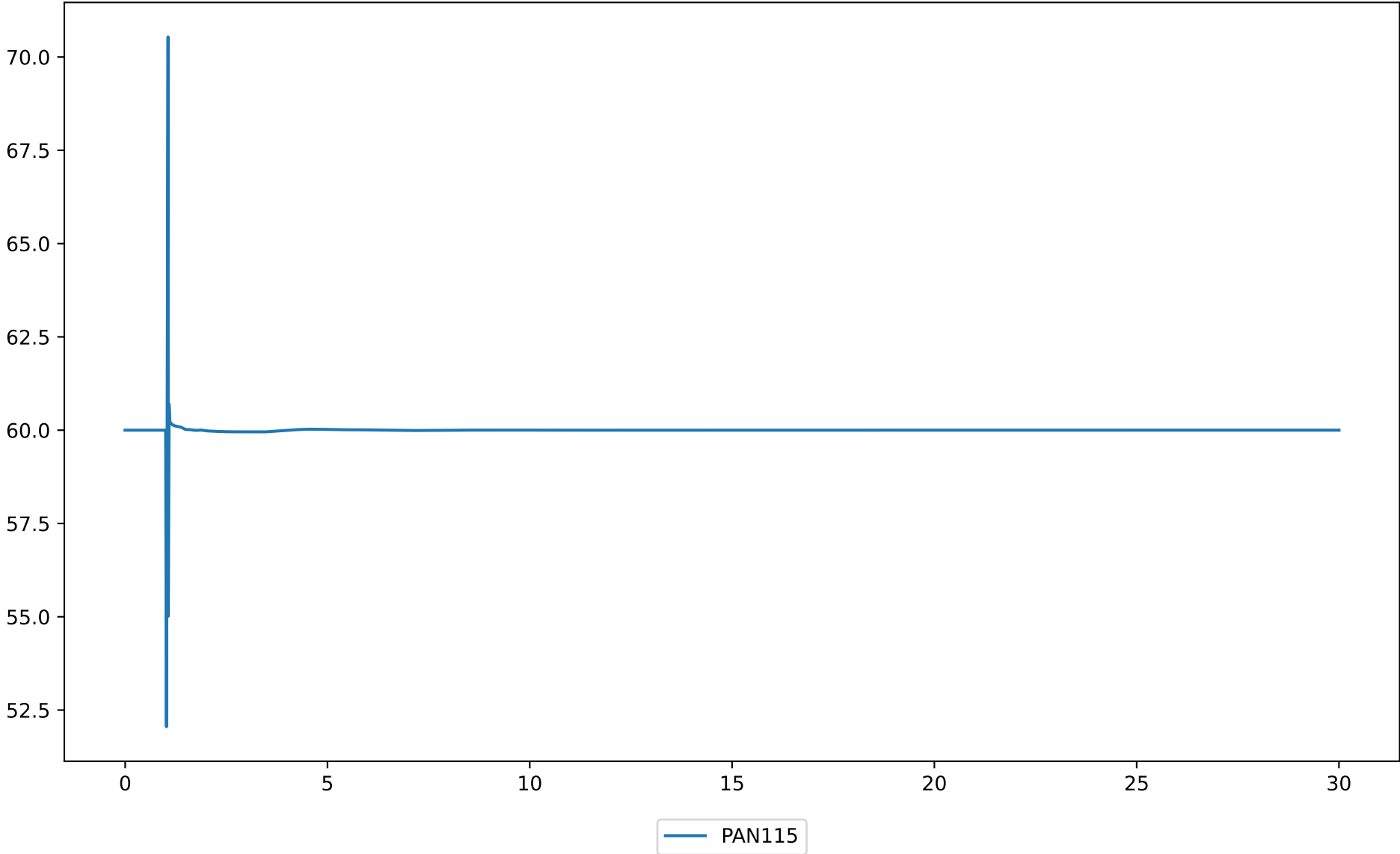
### Voltajes 115kV - Panama



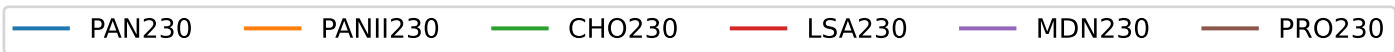
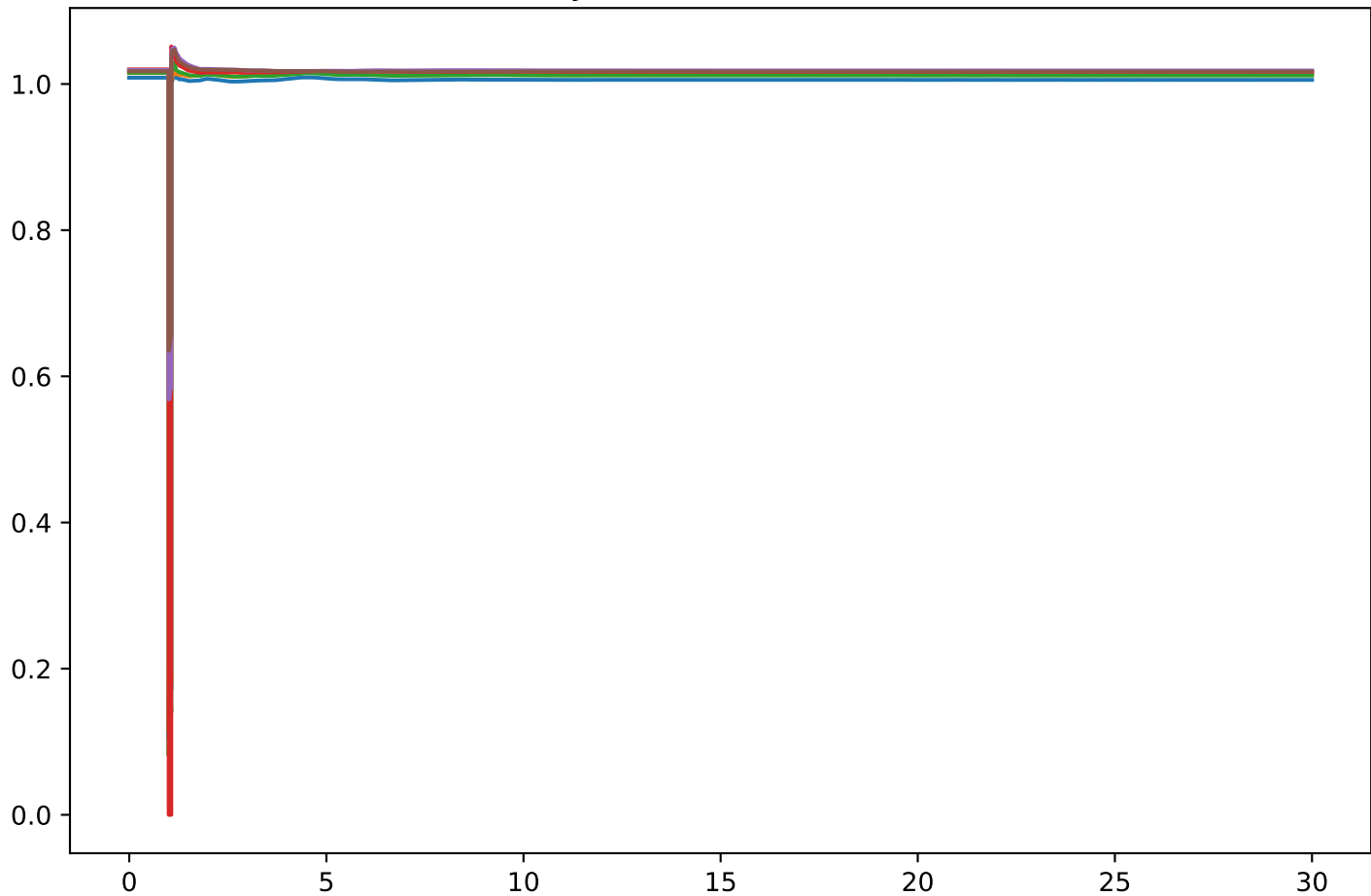
### Angulos de Rotacion de Maquinas - Panama



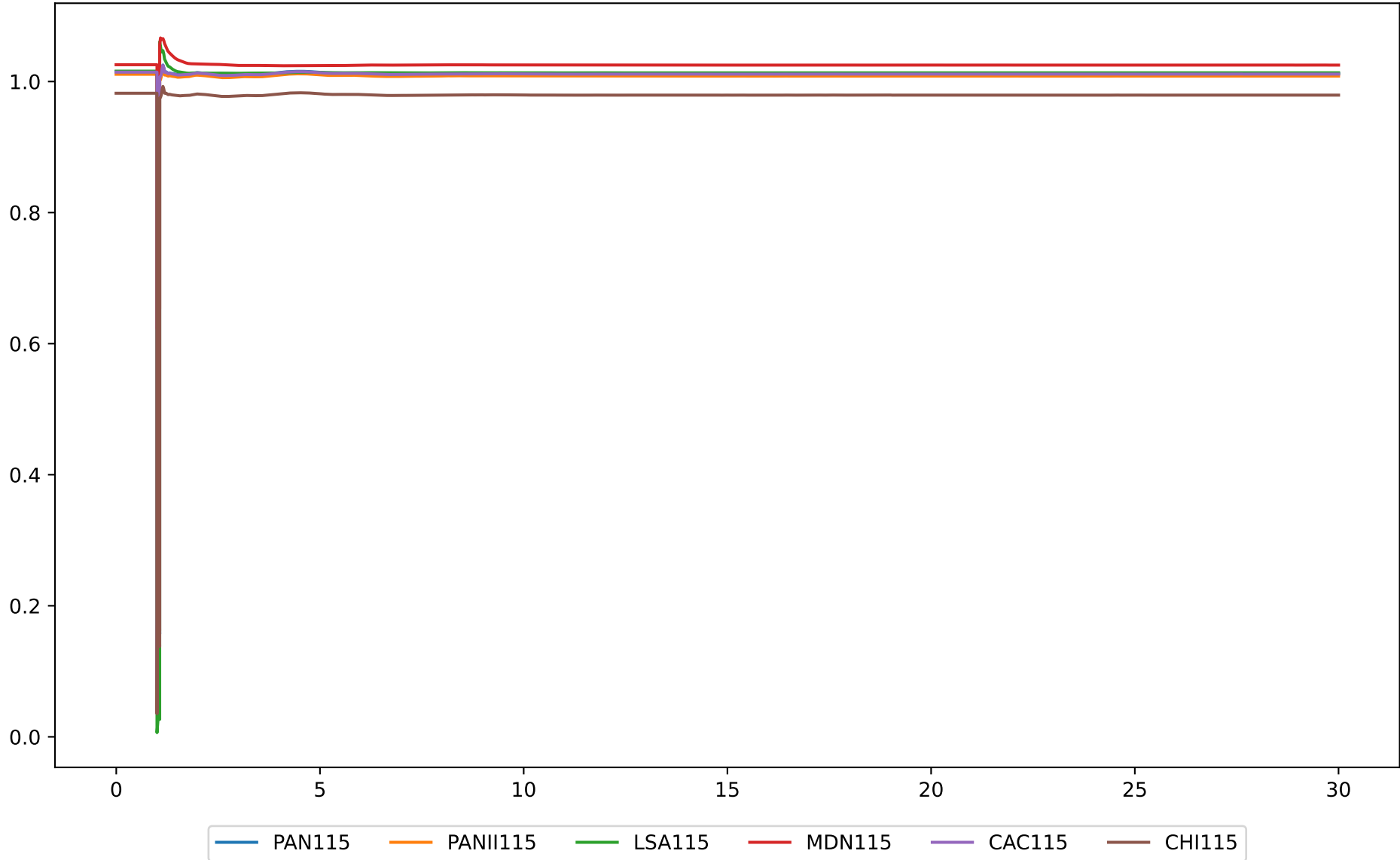
### Frecuencia (Hz)



# Voltajes 230kV - Panama

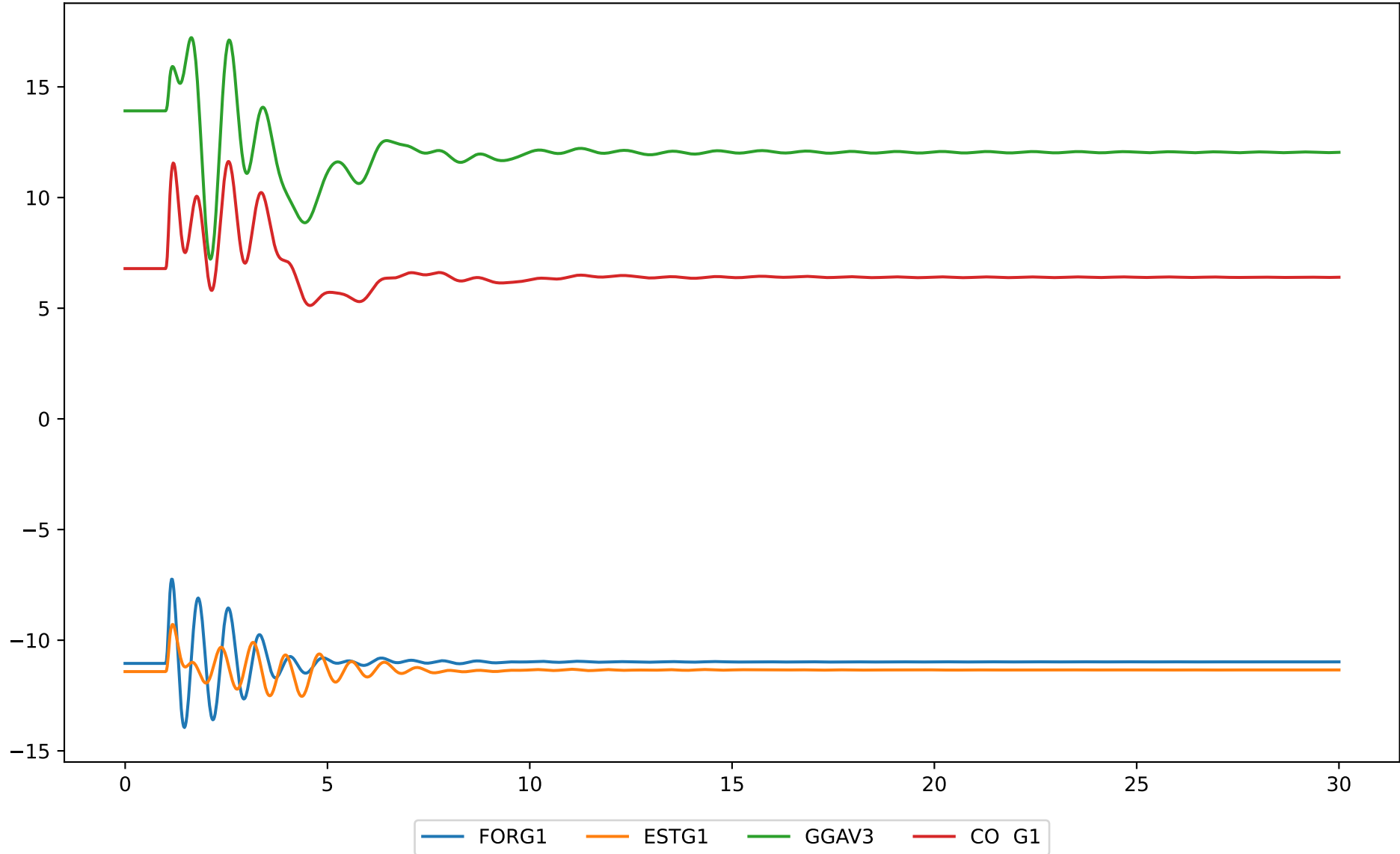


### Voltajes 115kV - Panama



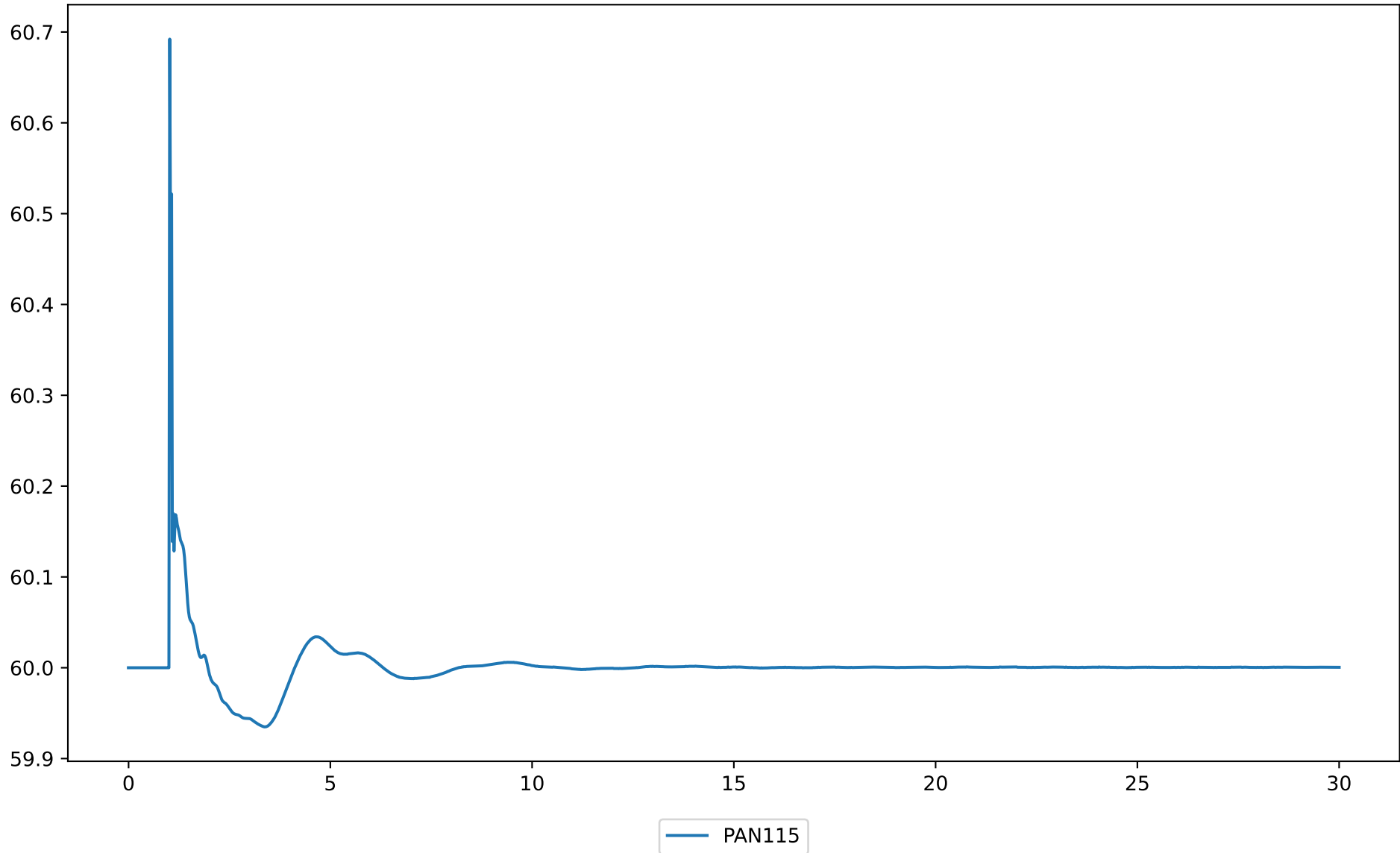


### Angulos de Rotacion de Maquinas - Panama

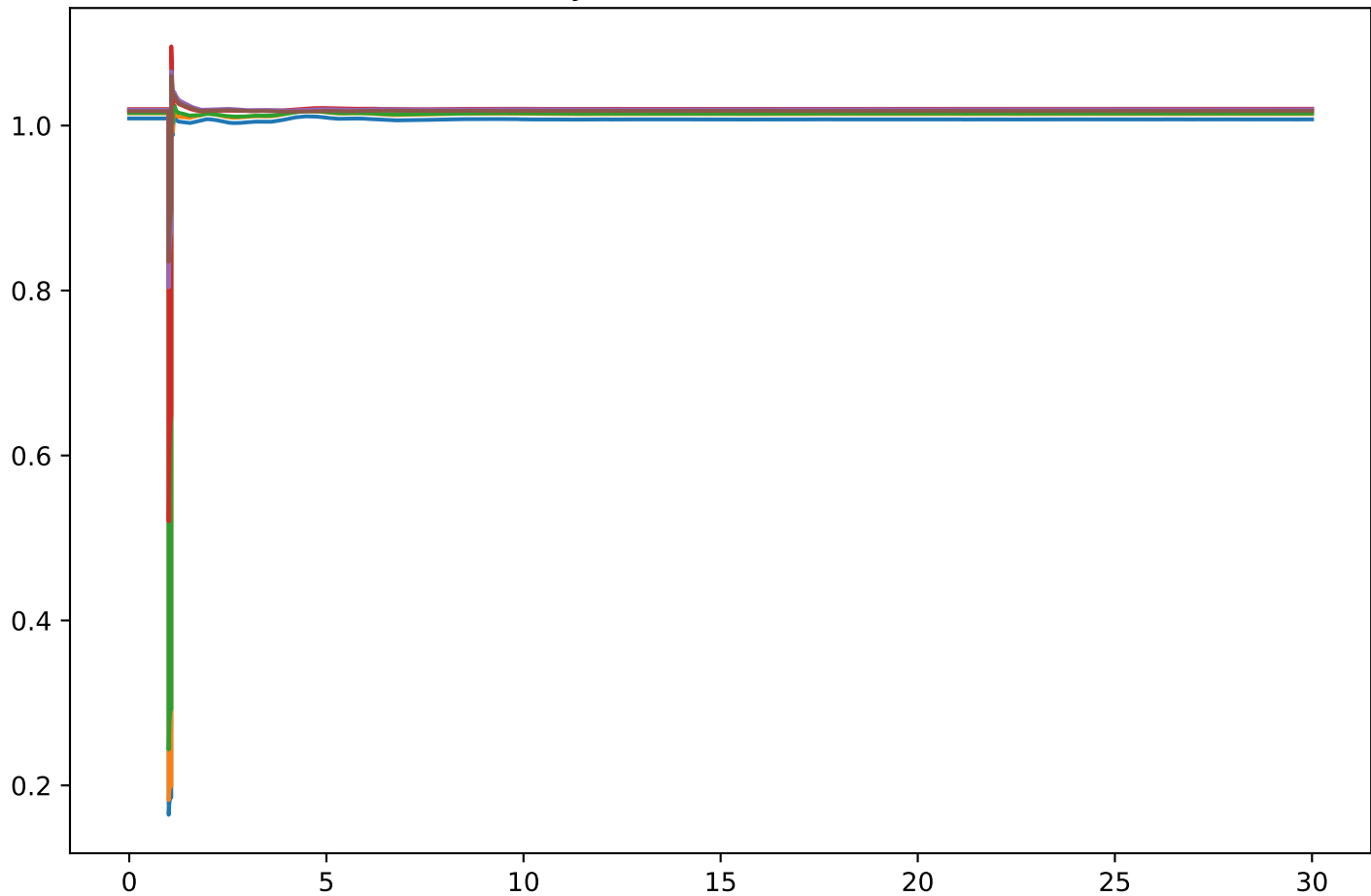


Caso: 523-5-2025CA\_ModMax\_Sec - Contingencia: 6002-6024-3A-C5\_PAN-CHI

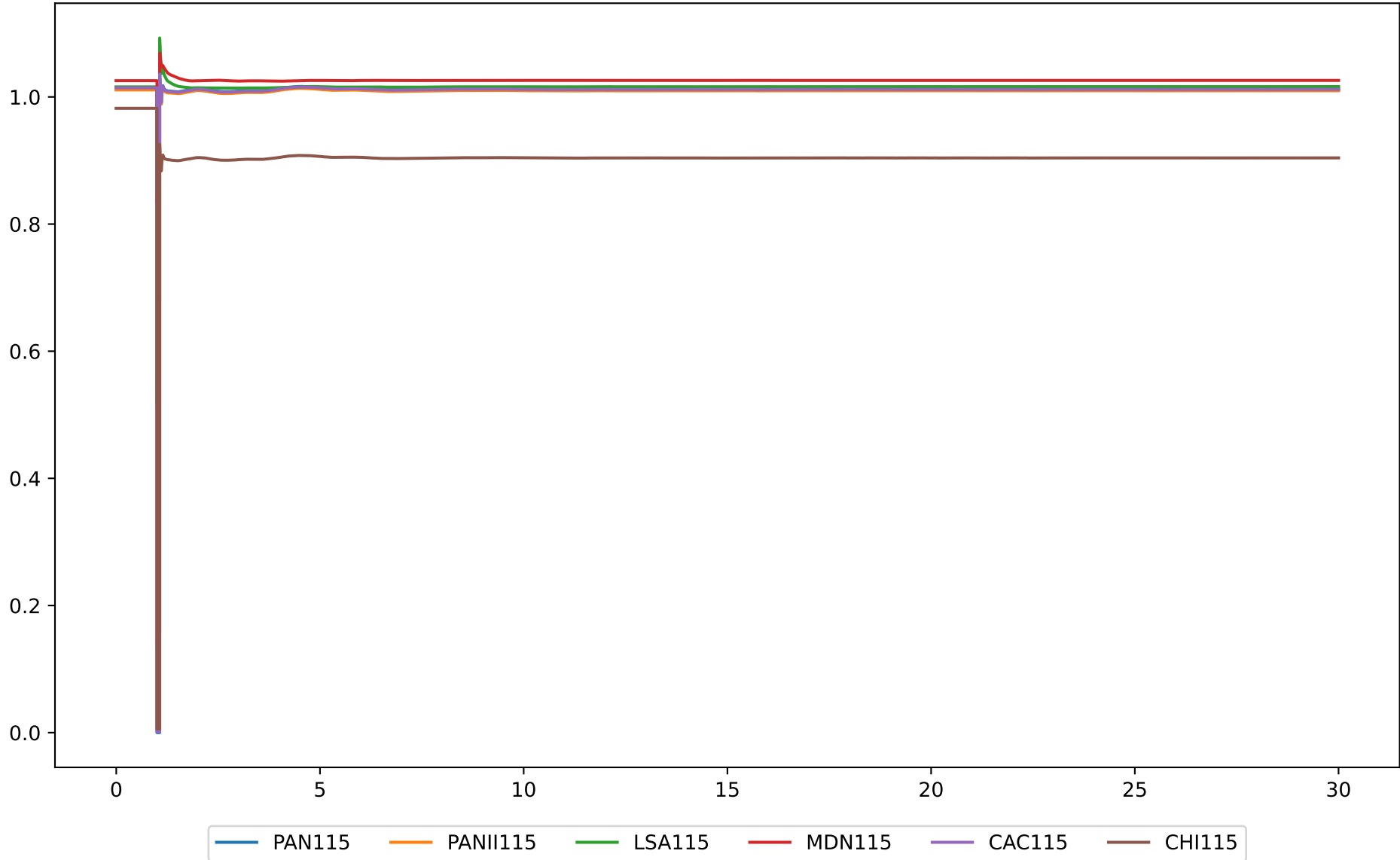
## Frecuencia (Hz)



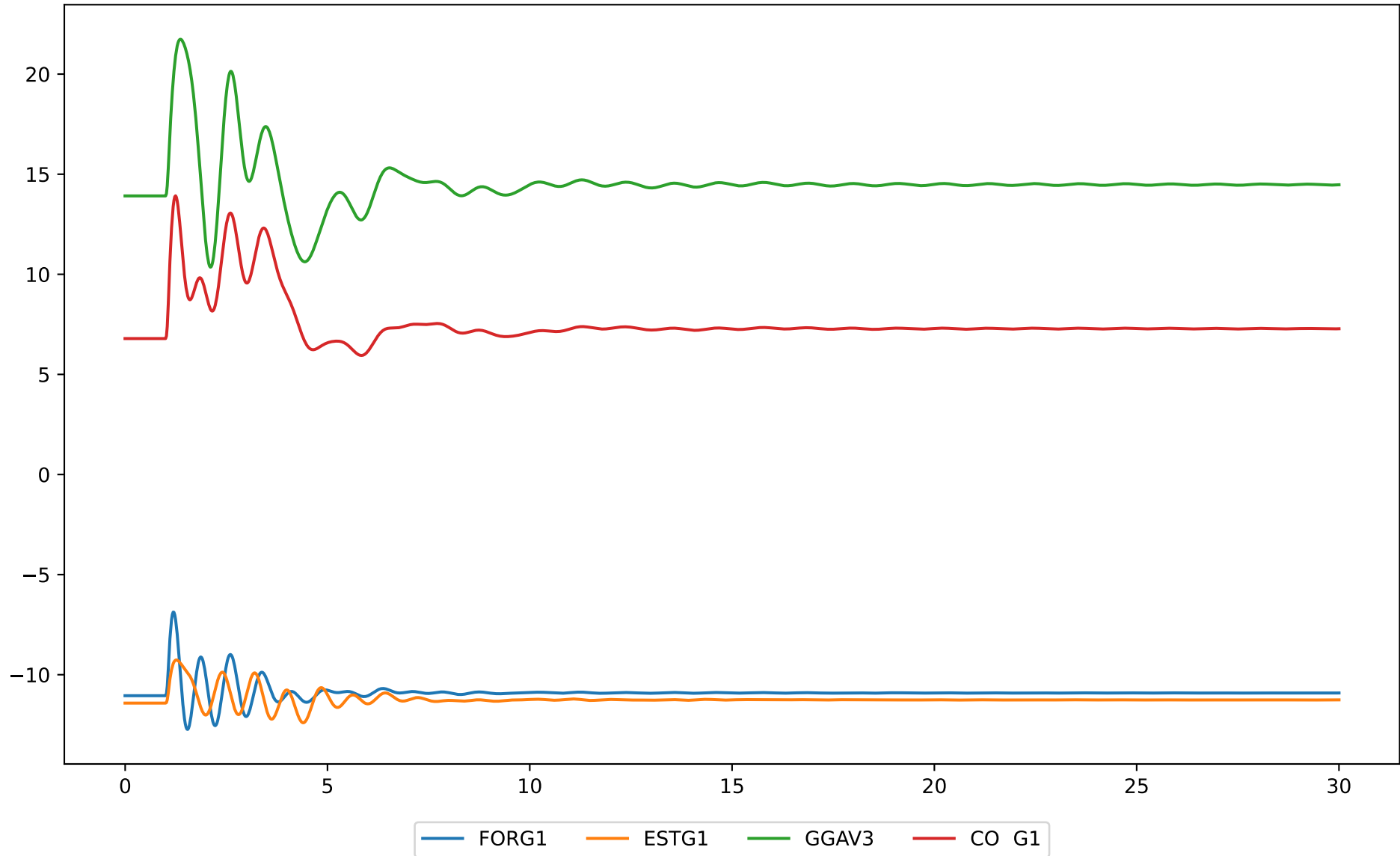
# Voltajes 230kV - Panama



### Voltajes 115kV - Panama

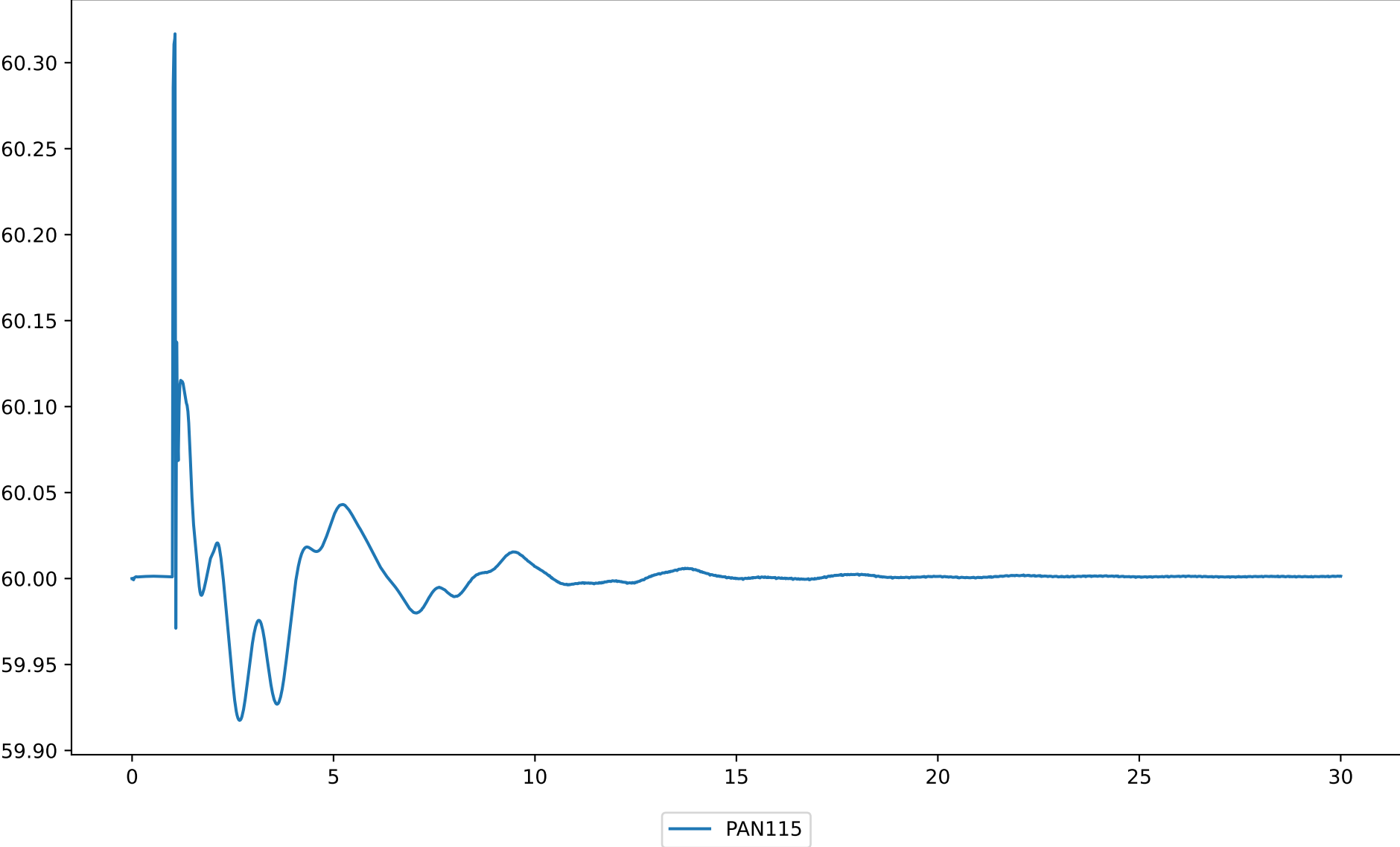


### Angulos de Rotacion de Maquinas - Panama

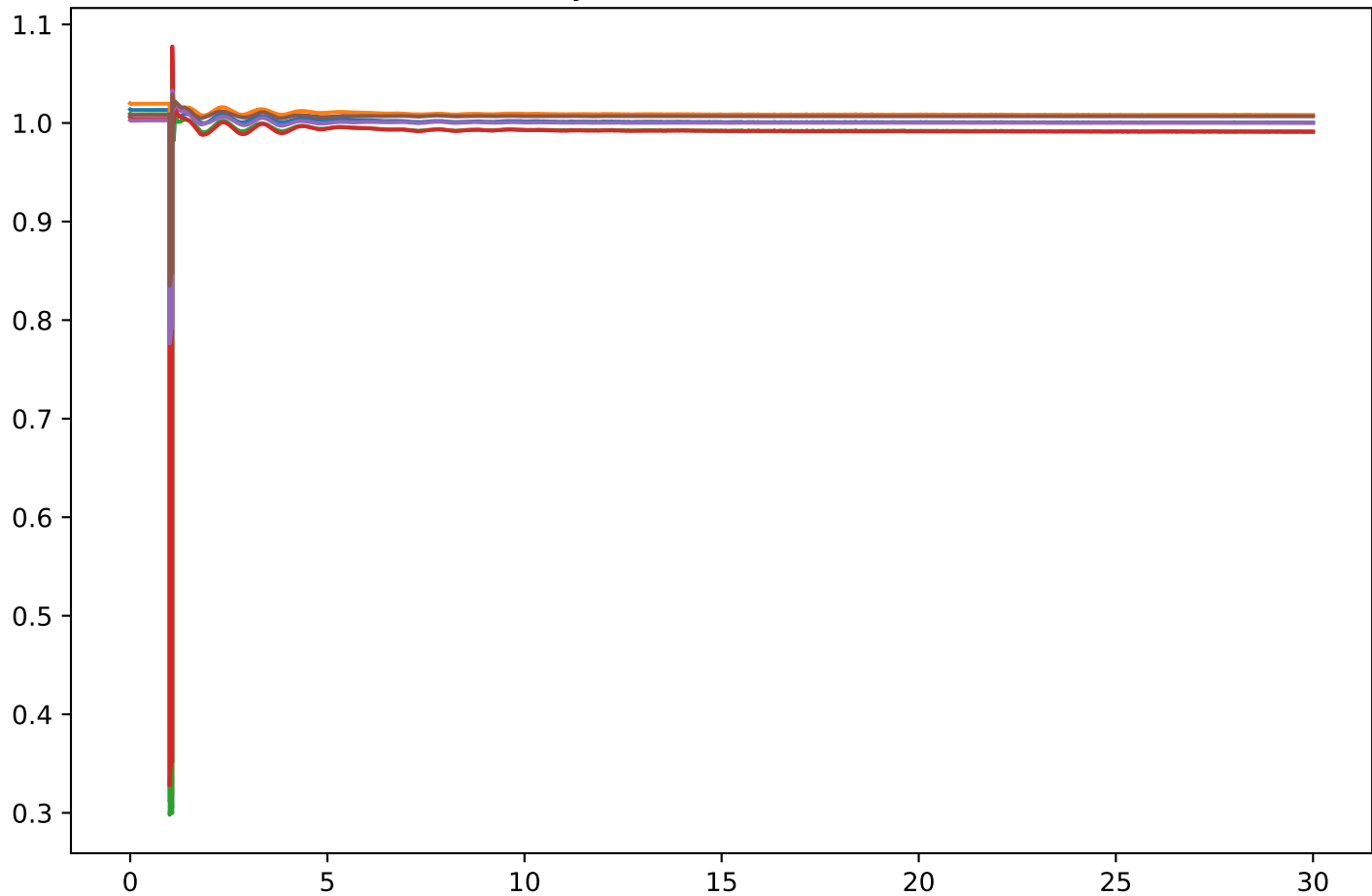


**2025 LLUVIOSA**

### Frecuencia (Hz)

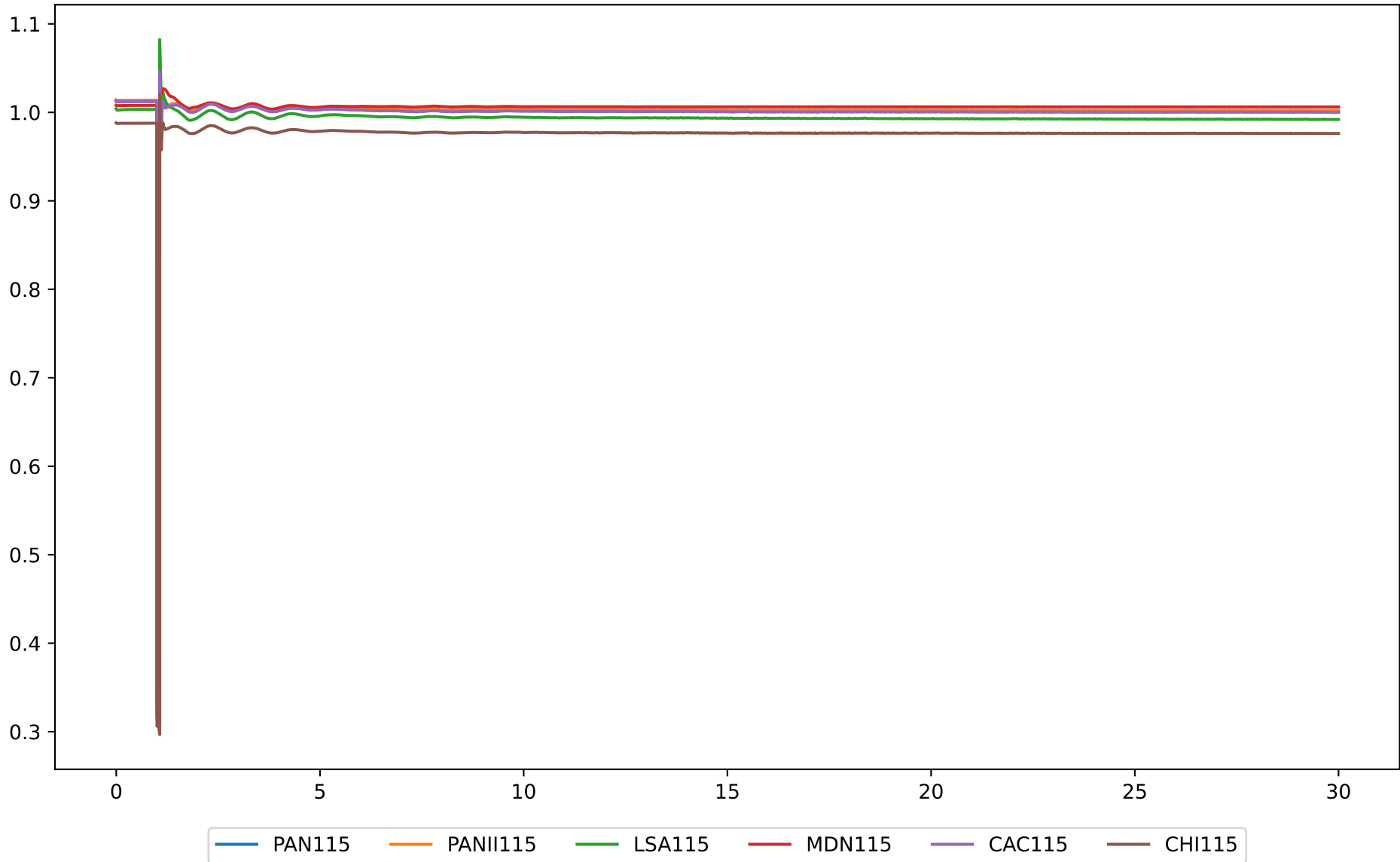


# Voltajes 230kV - Panama

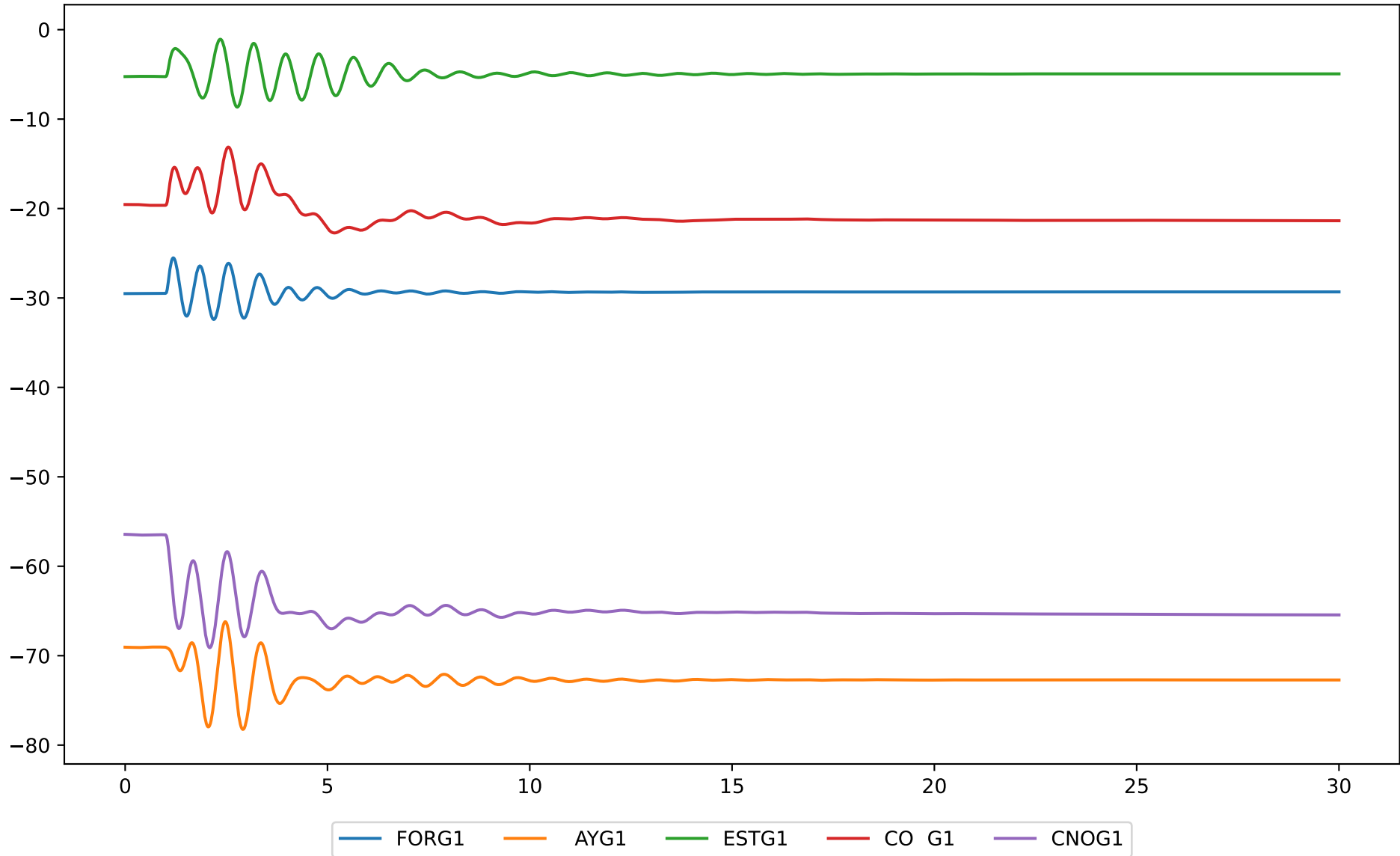




### Voltajes 115kV - Panama

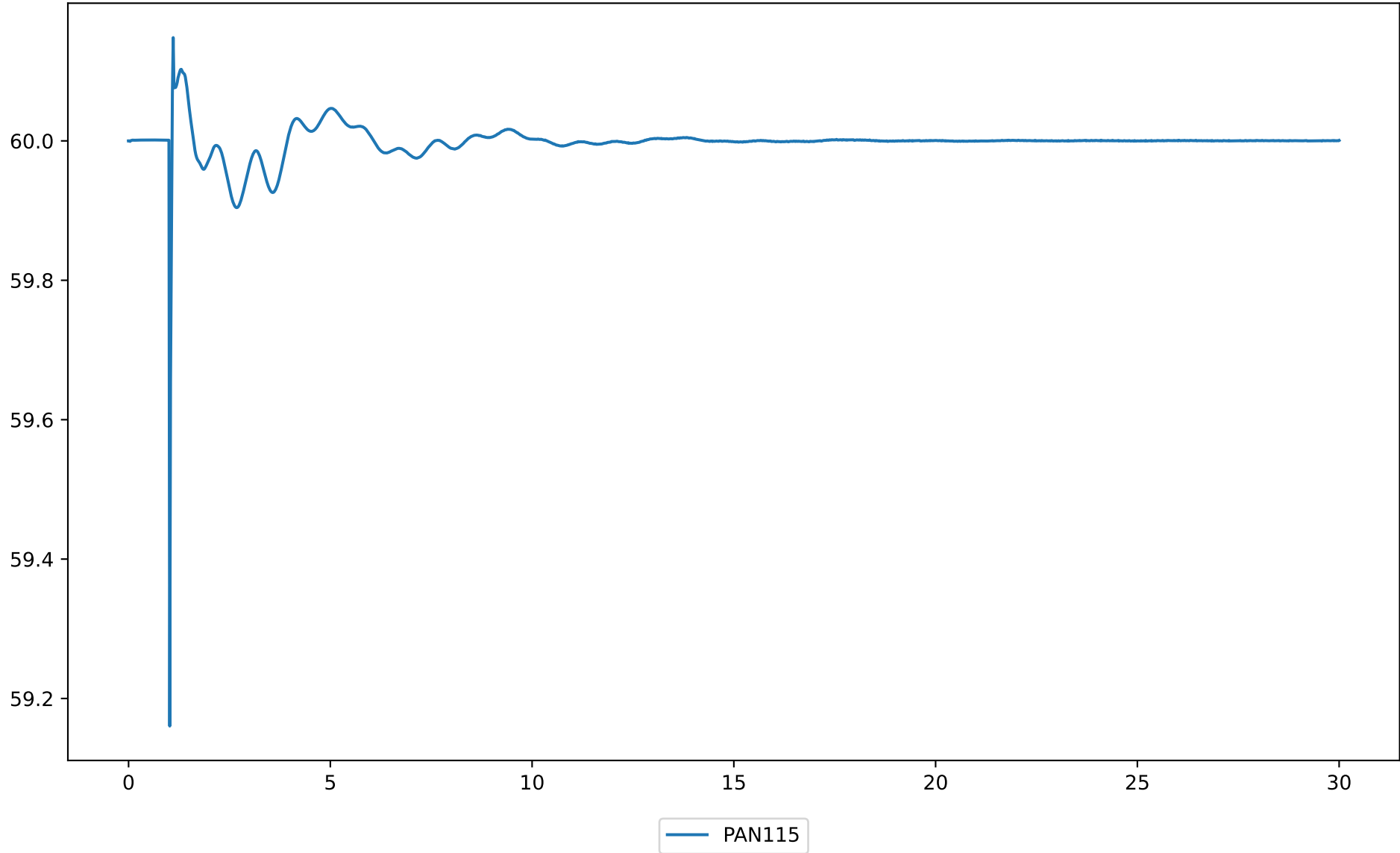


### Angulos de Rotacion de Maquinas - Panama

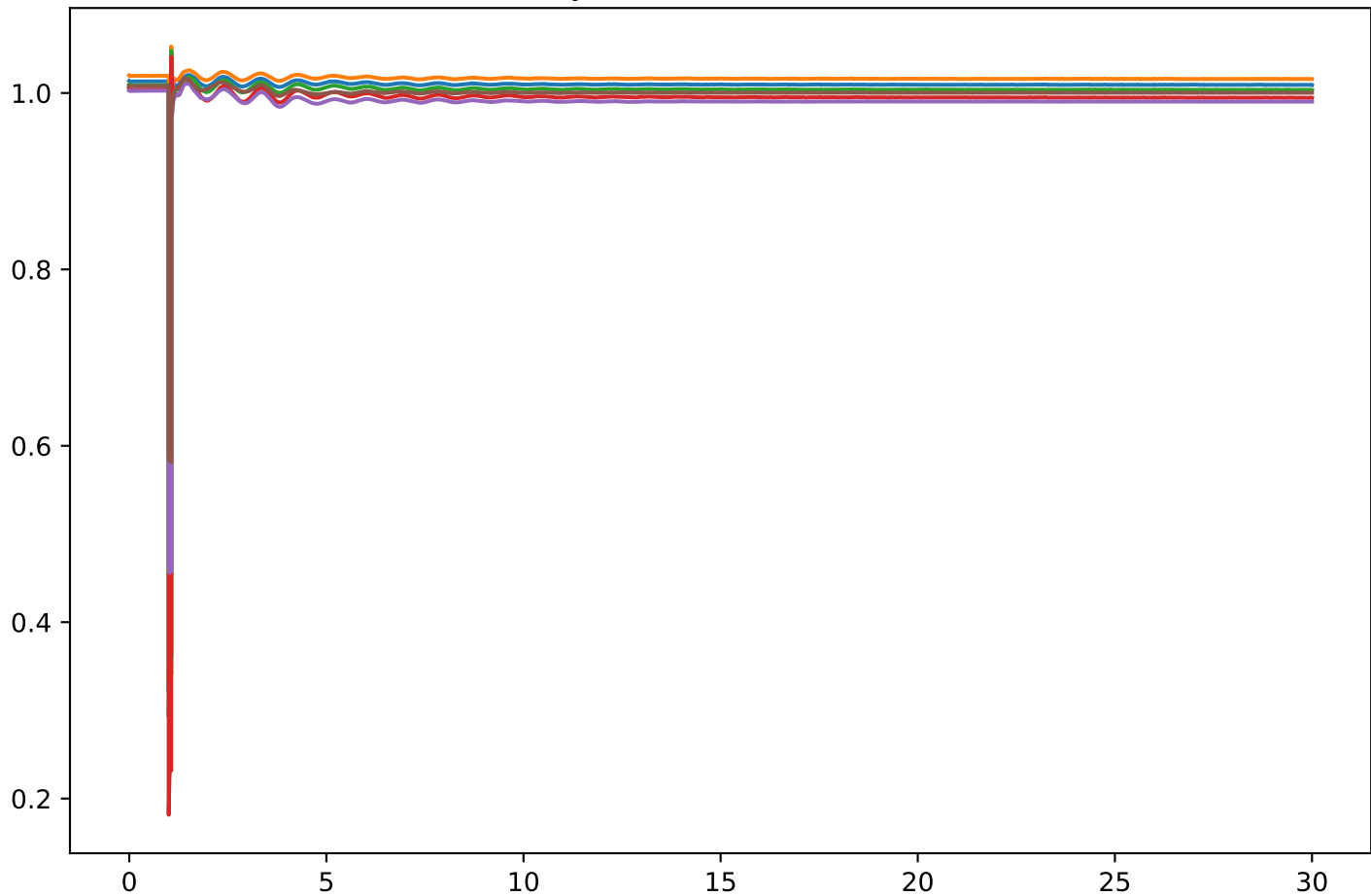


Caso: 523-5-2025CA\_ModMax\_Lluv - Contingencia: 6182-6440-5A-C2\_VEL-DOM

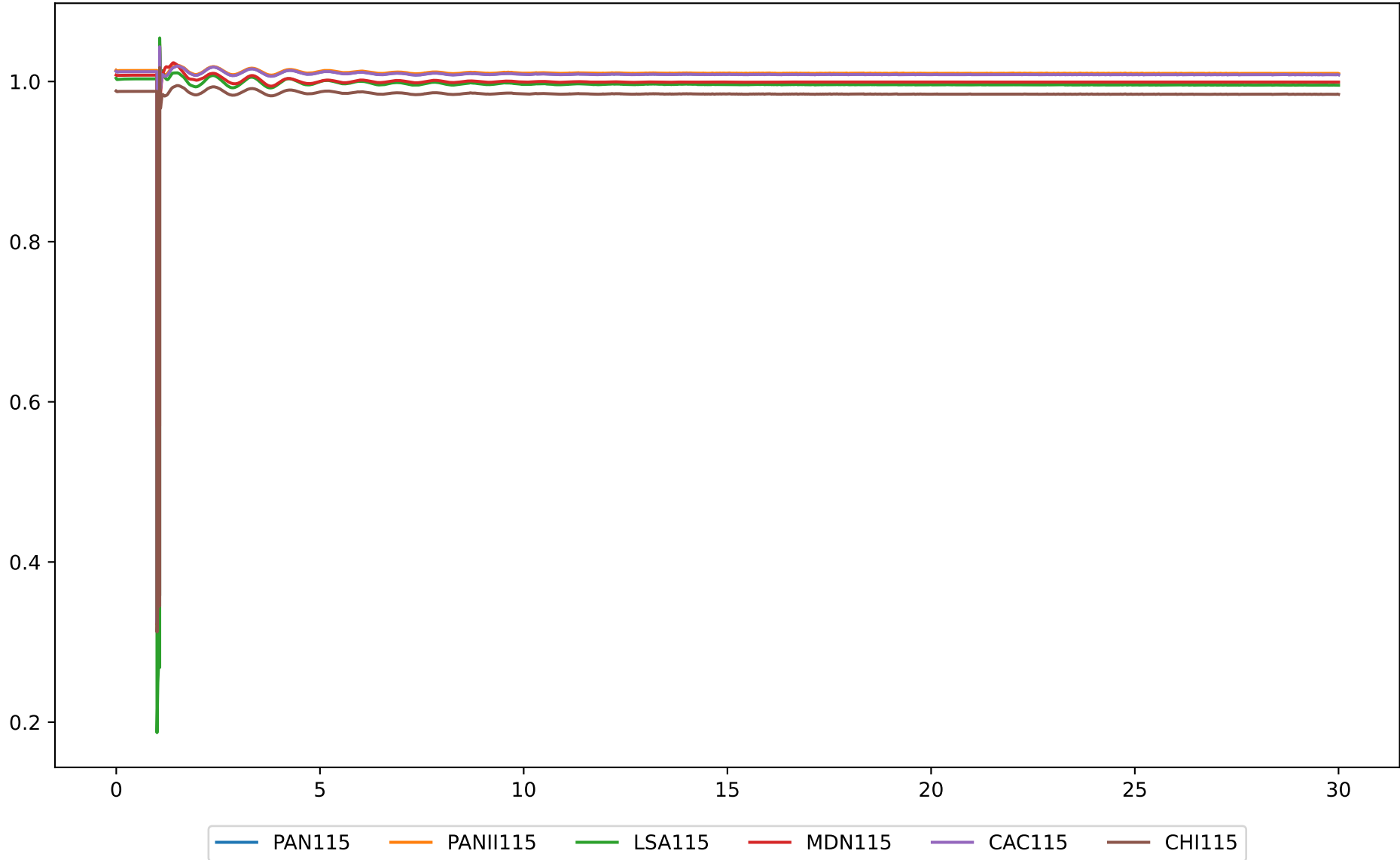
### Frecuencia (Hz)



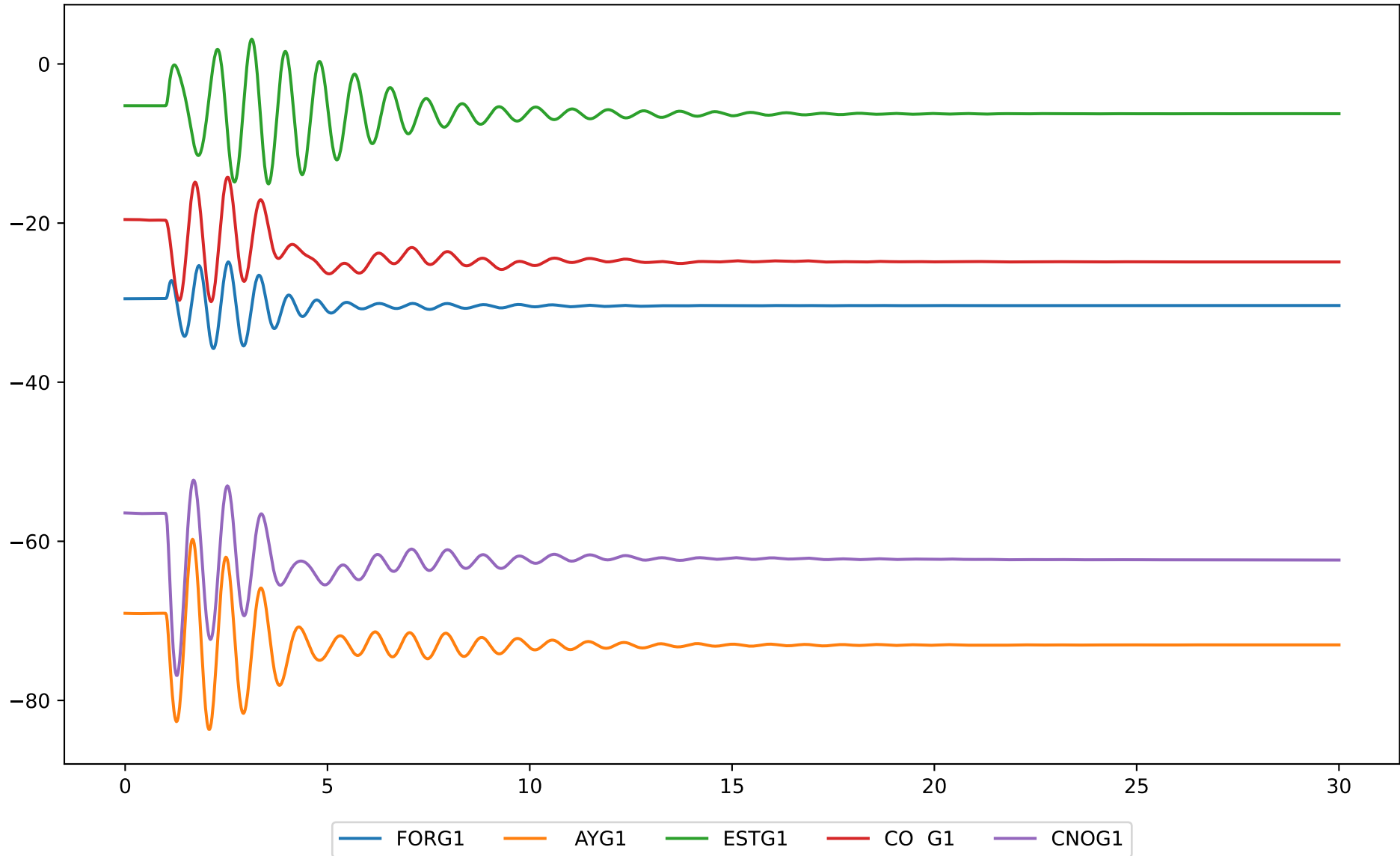
# Voltajes 230kV - Panama



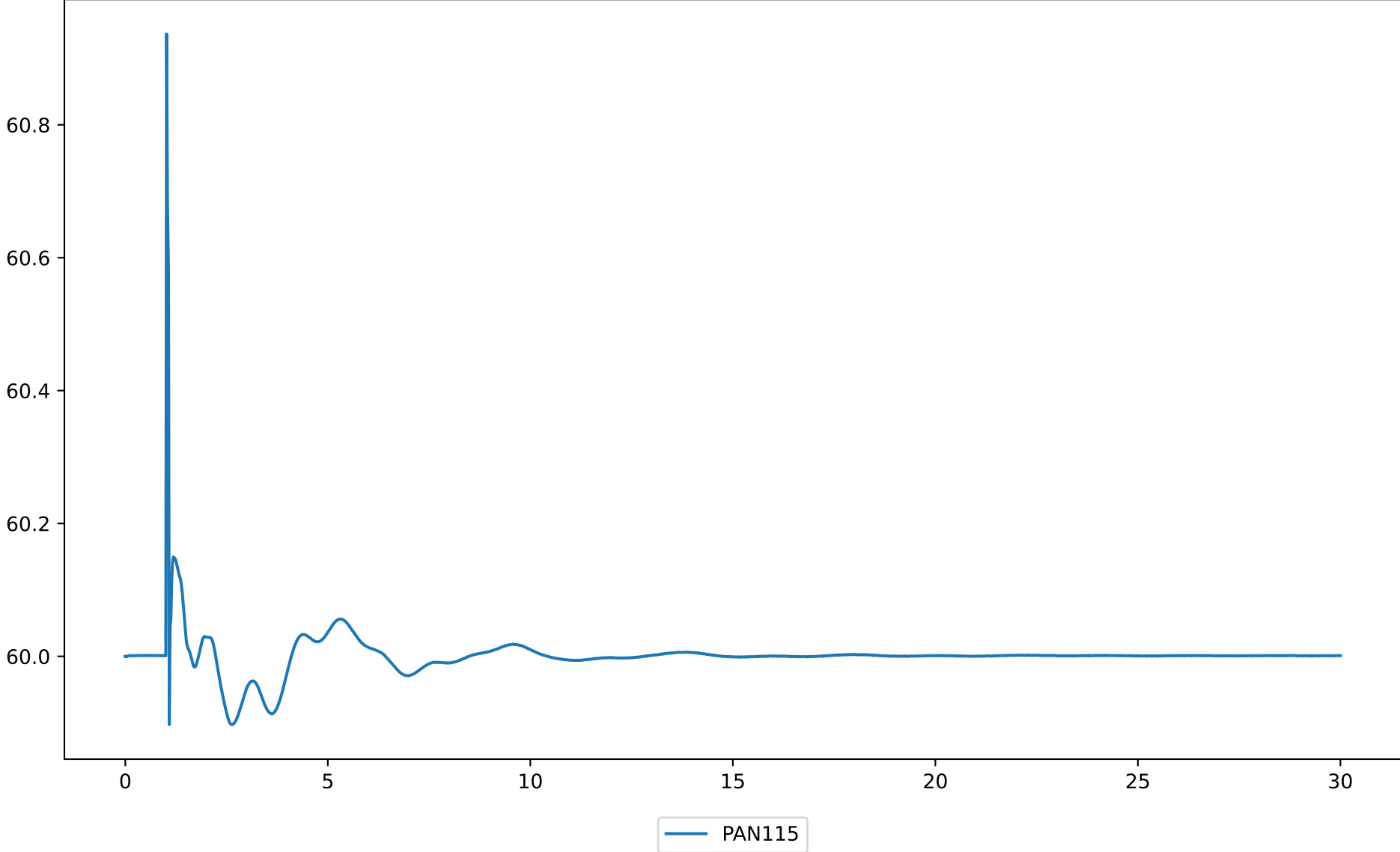
### Voltajes 115kV - Panama



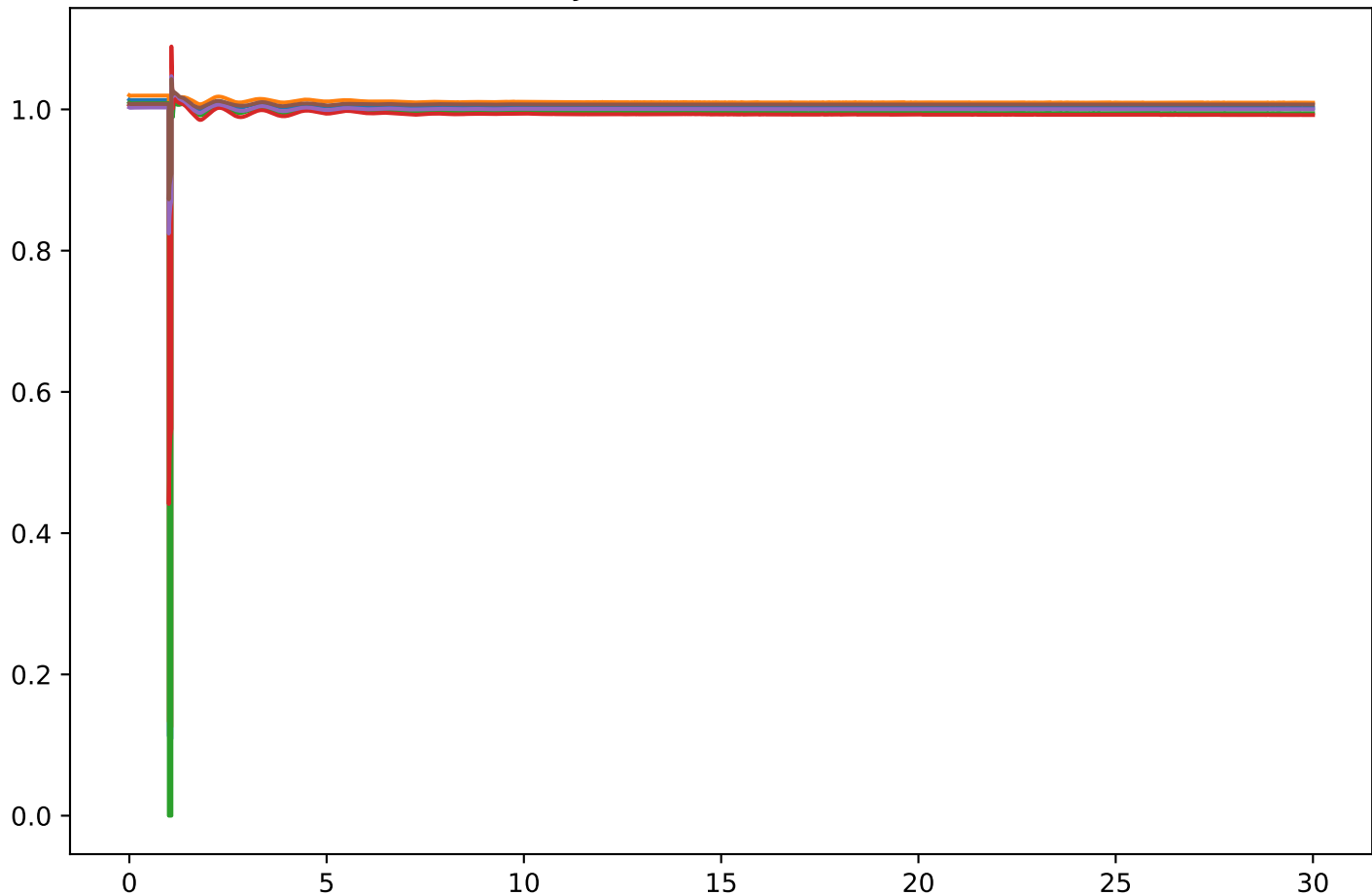
### Angulos de Rotacion de Maquinas - Panama



### Frecuencia (Hz)

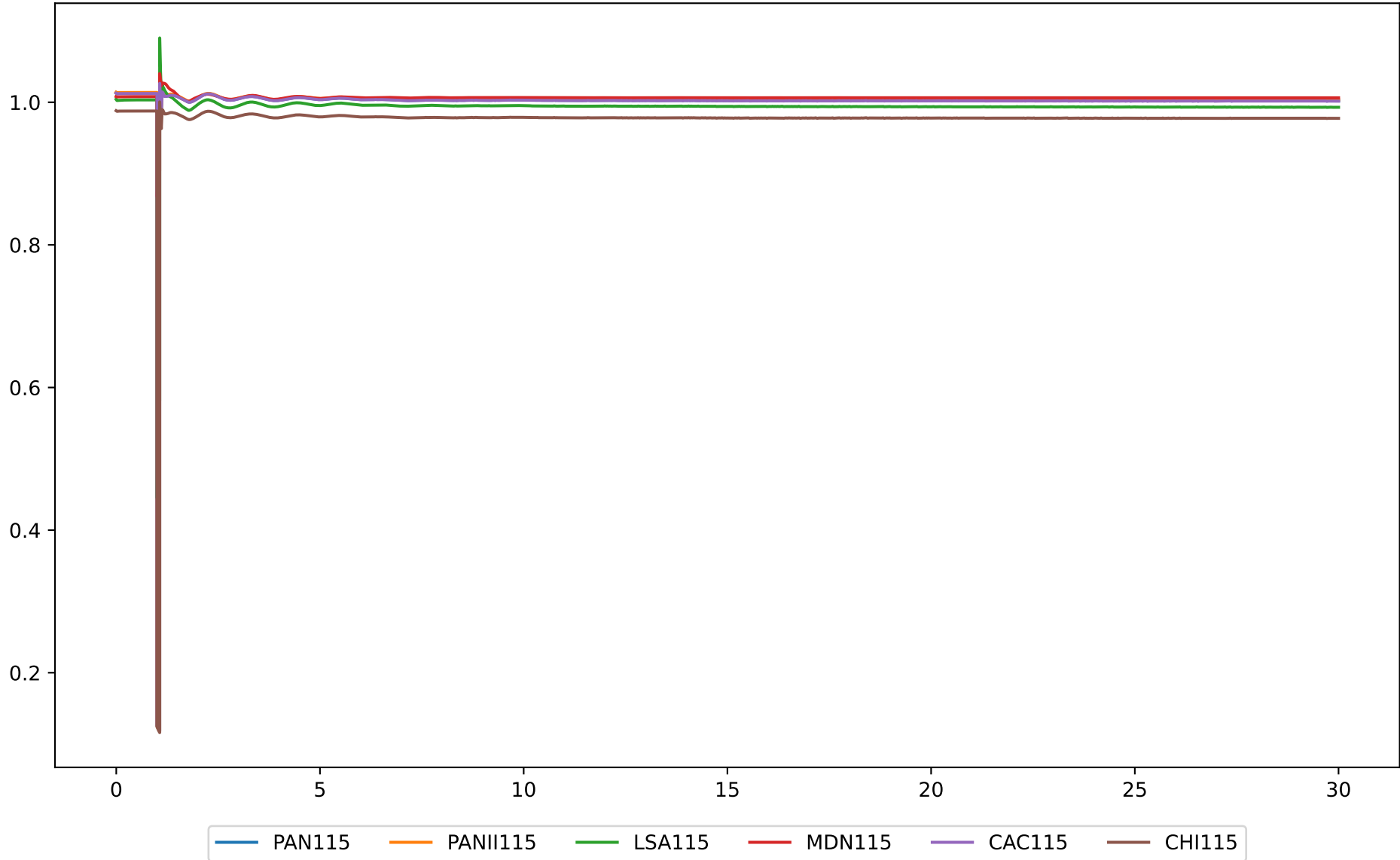


# Voltajes 230kV - Panama

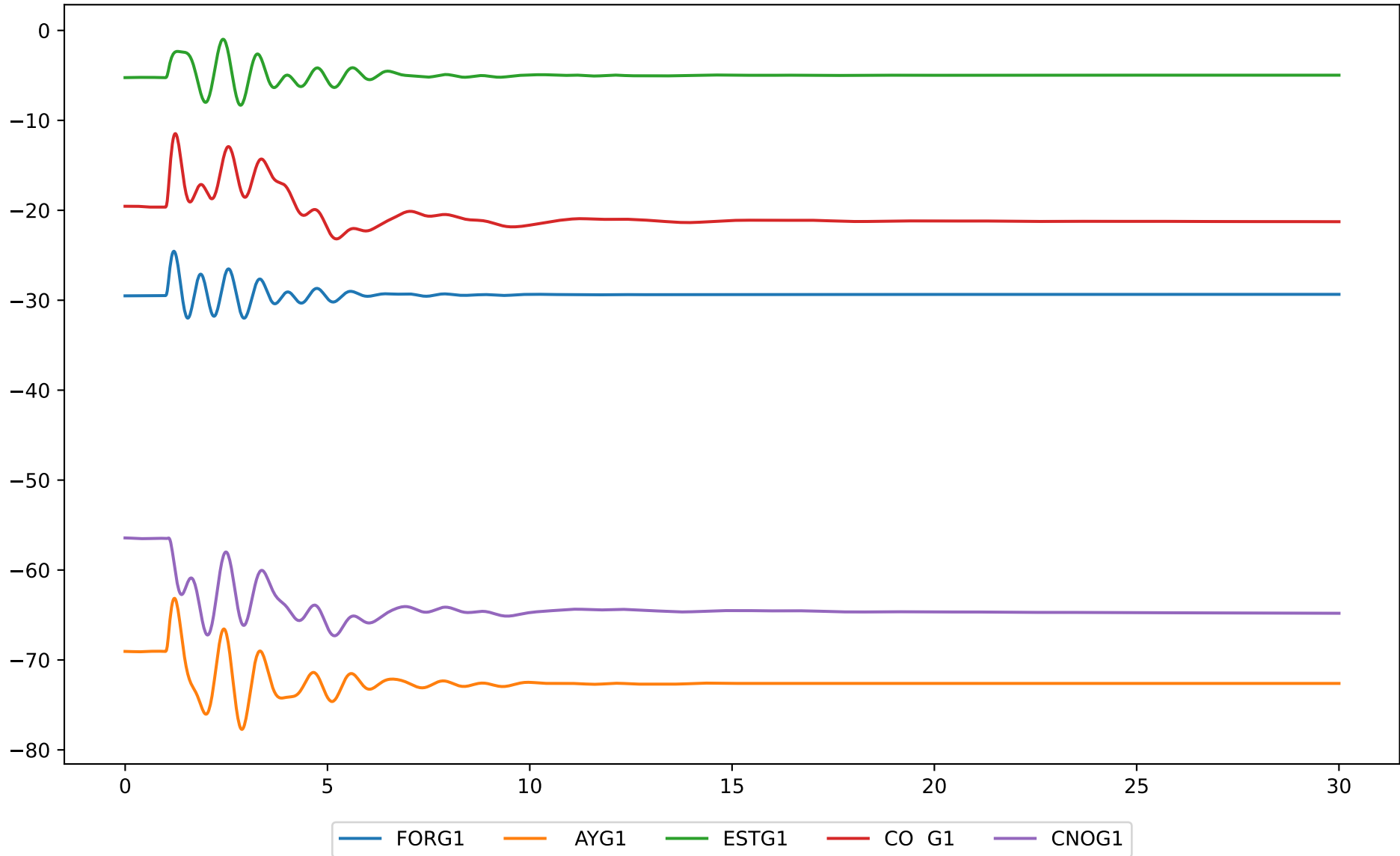




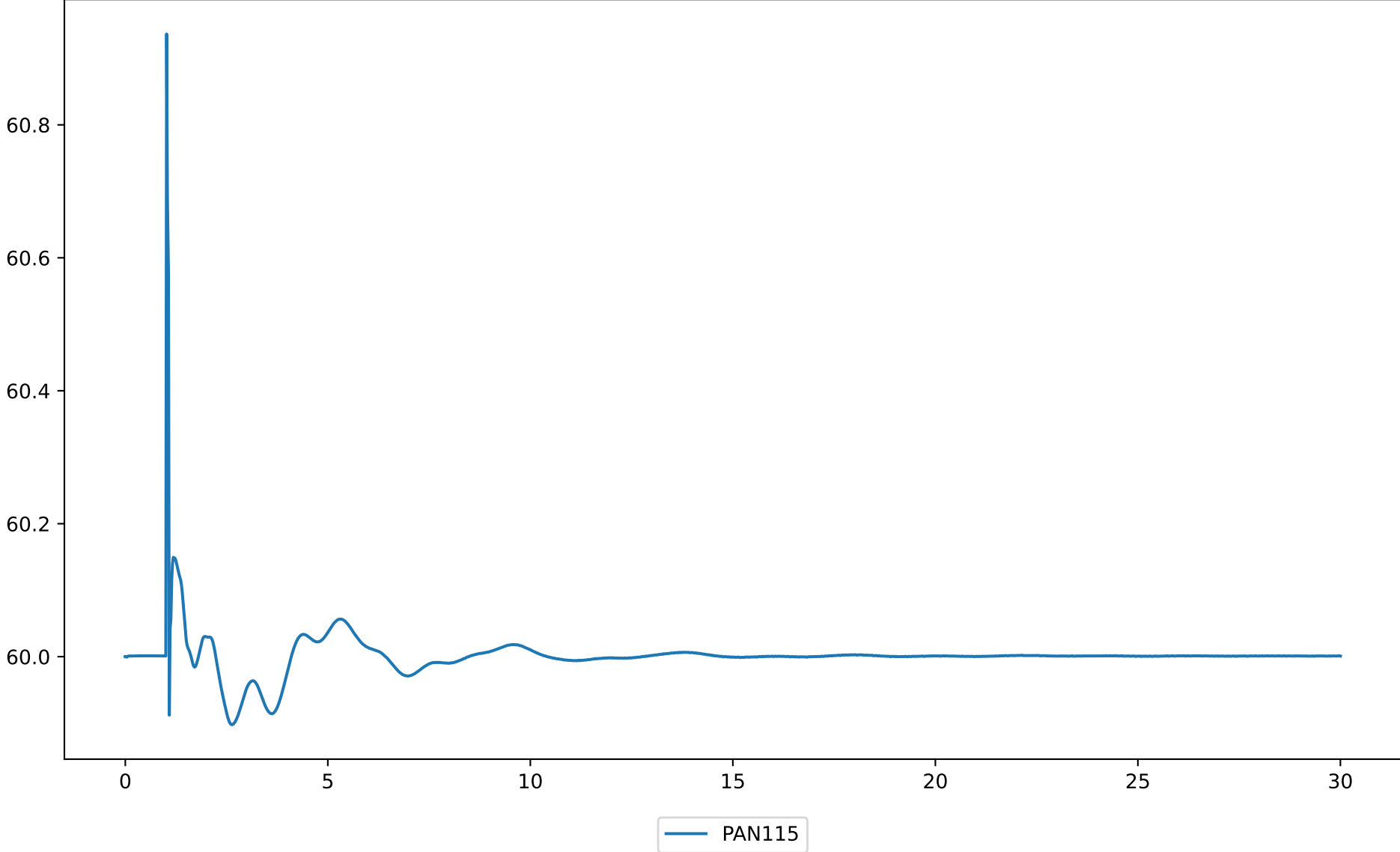
### Voltajes 115kV - Panama



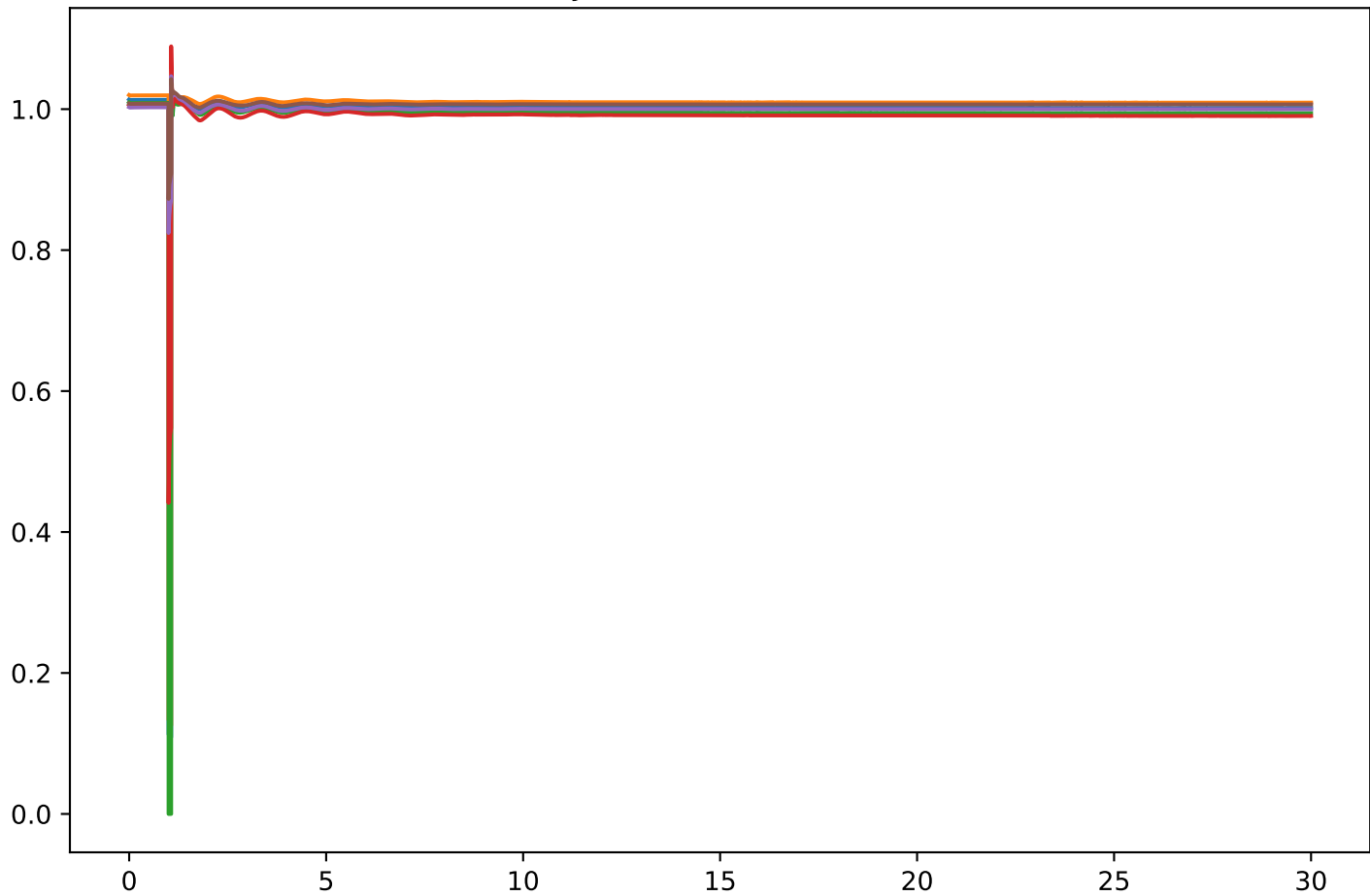
### Angulos de Rotacion de Maquinas - Panama



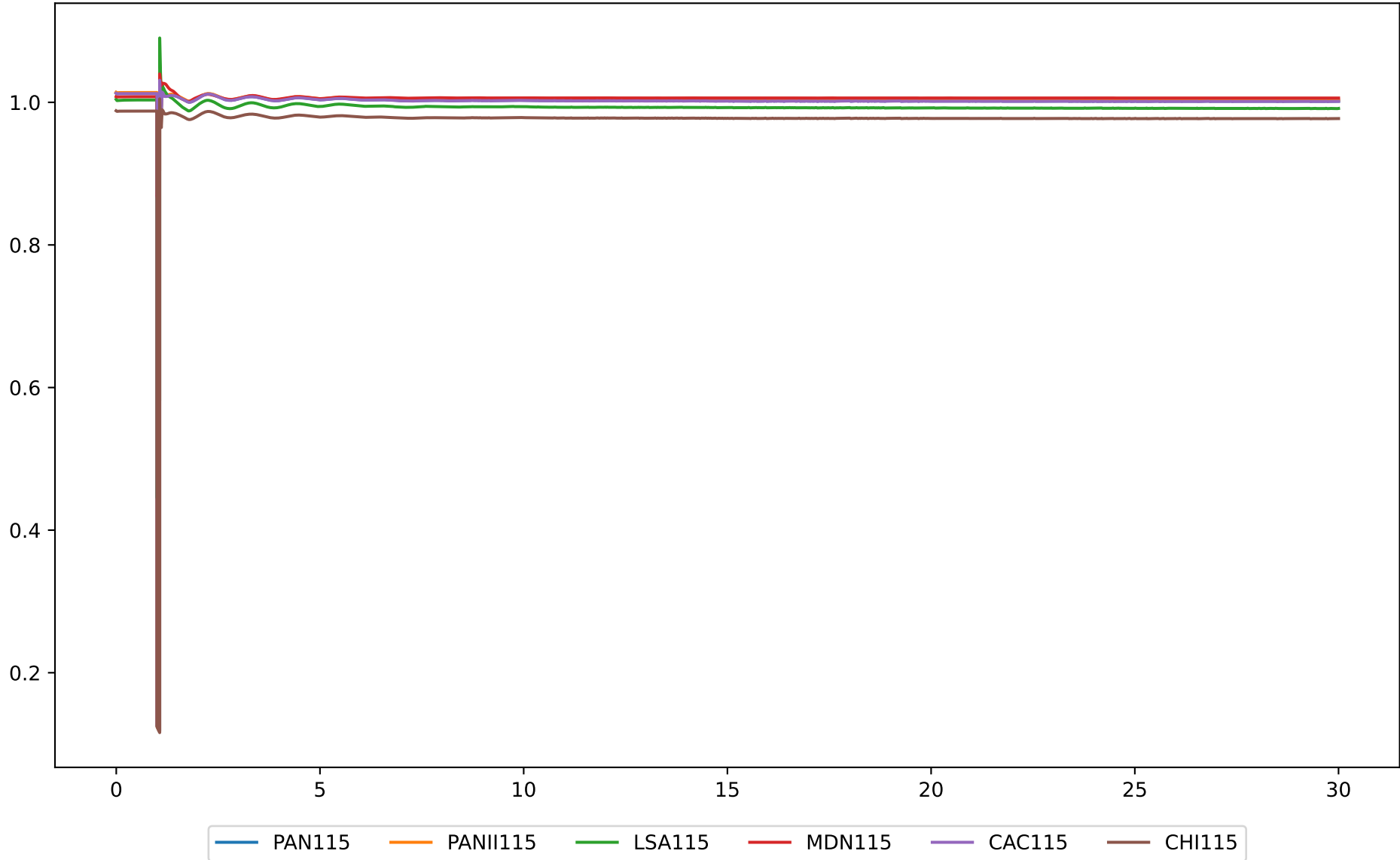
### Frecuencia (Hz)



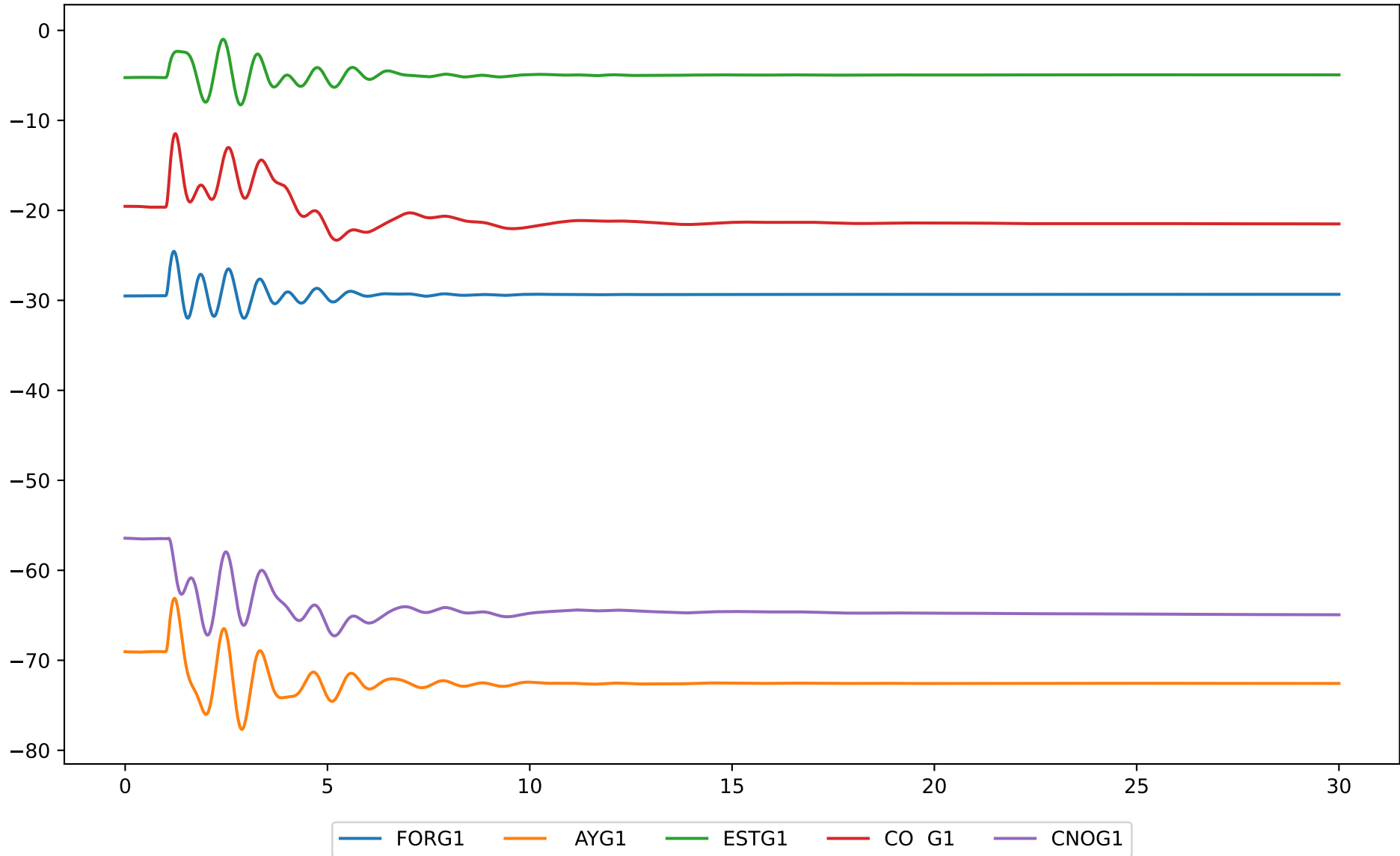
# Voltajes 230kV - Panama



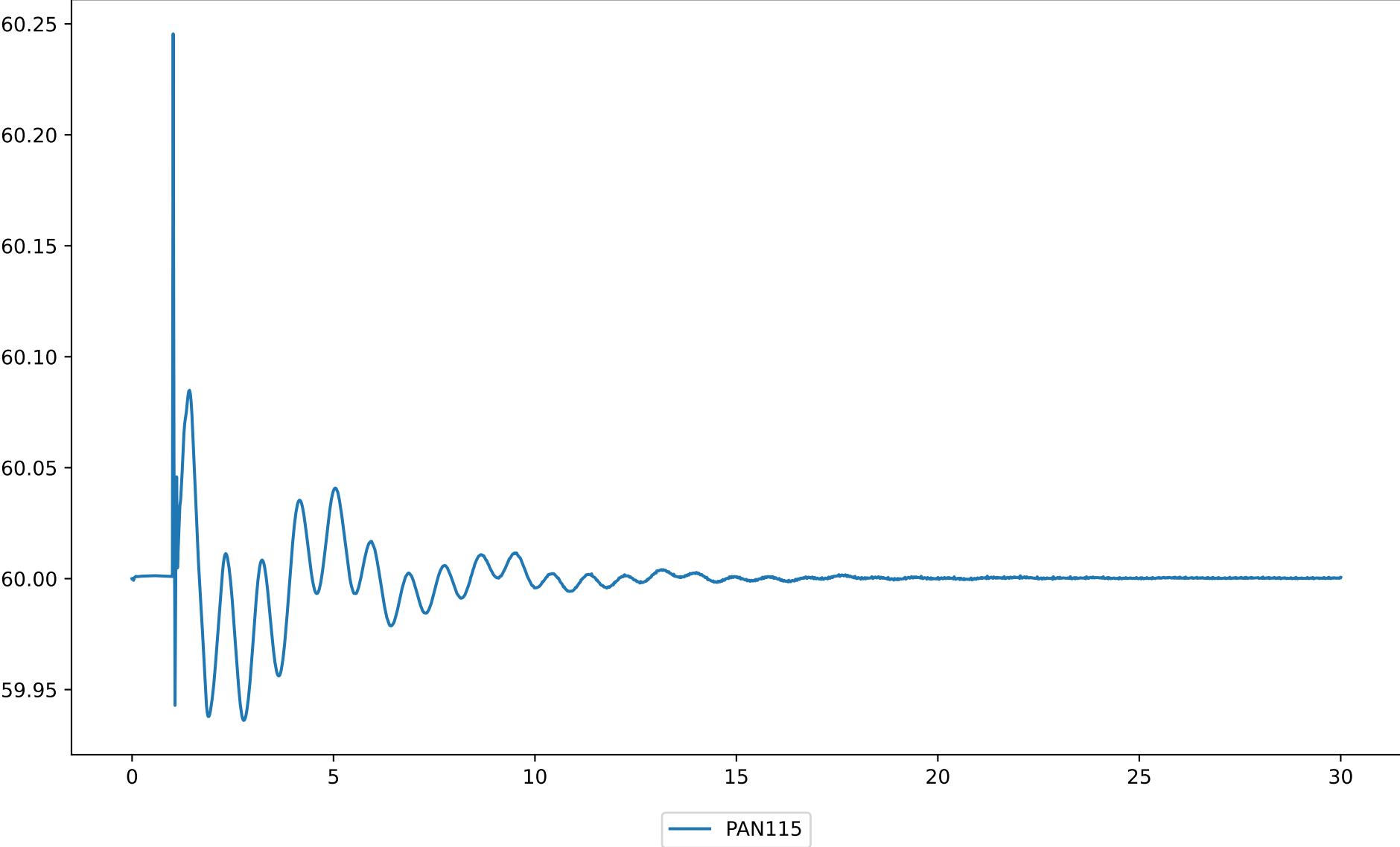
### Voltajes 115kV - Panama



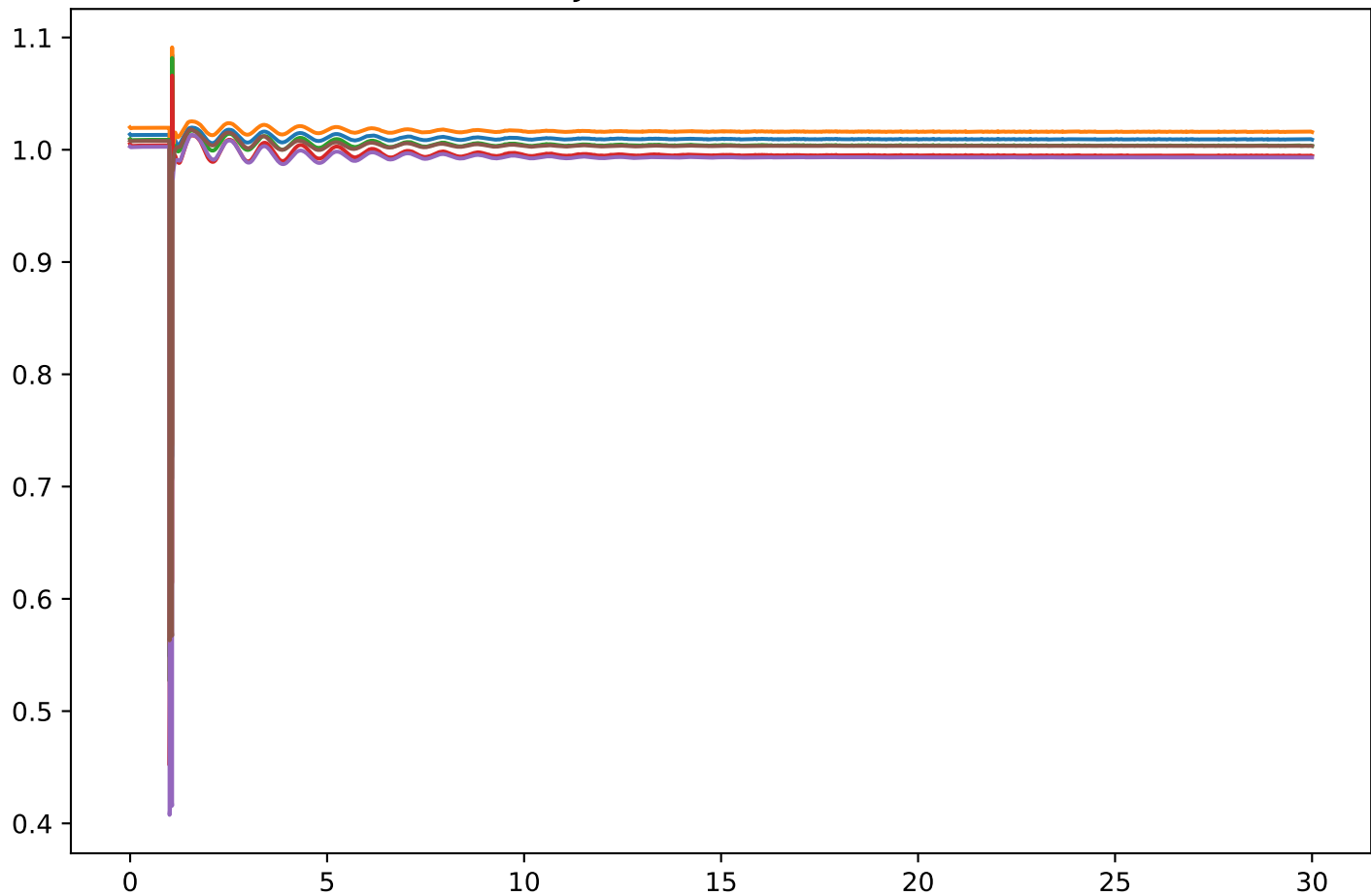
### Angulos de Rotacion de Maquinas - Panama



### Frecuencia (Hz)

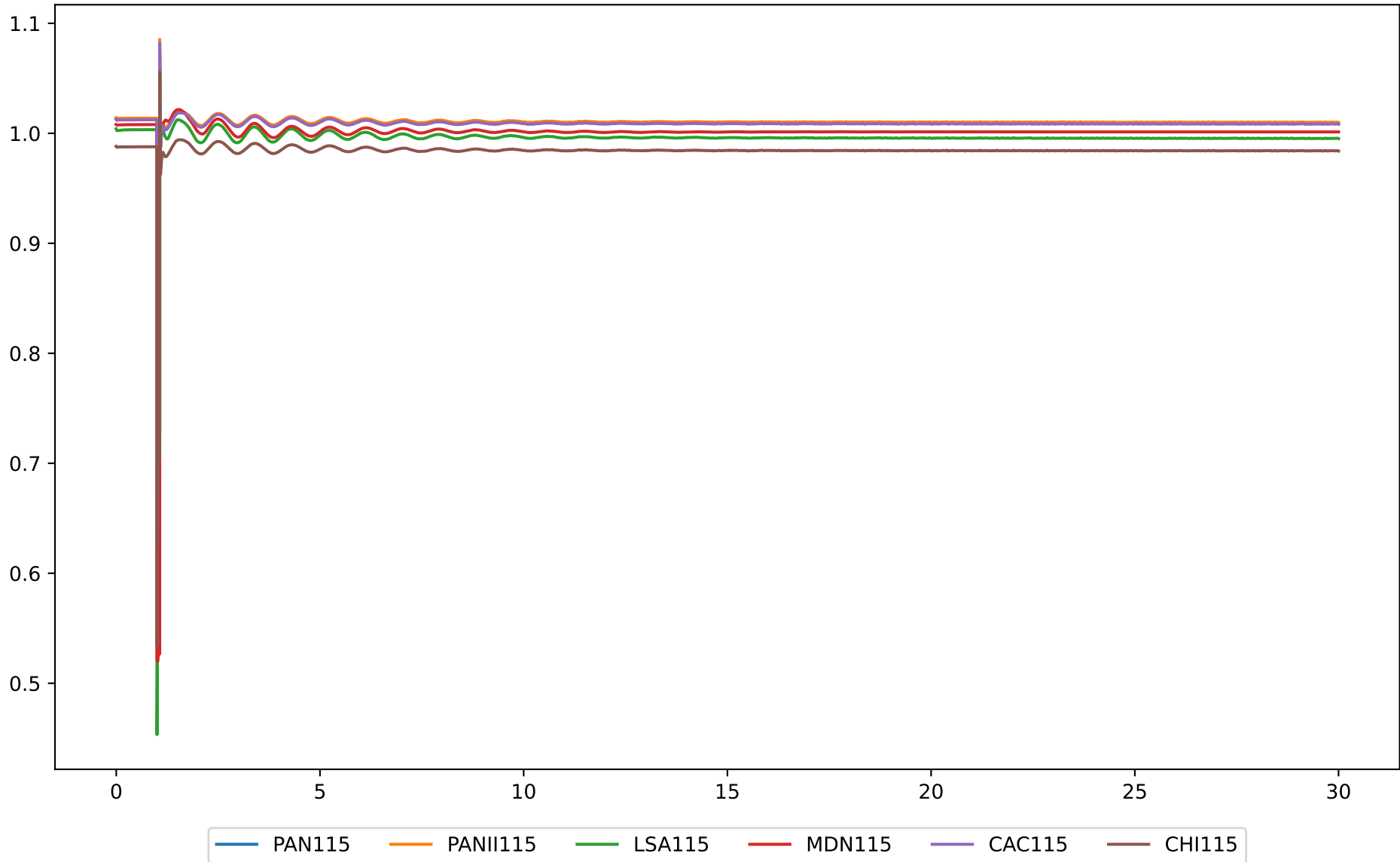


# Voltajes 230kV - Panama

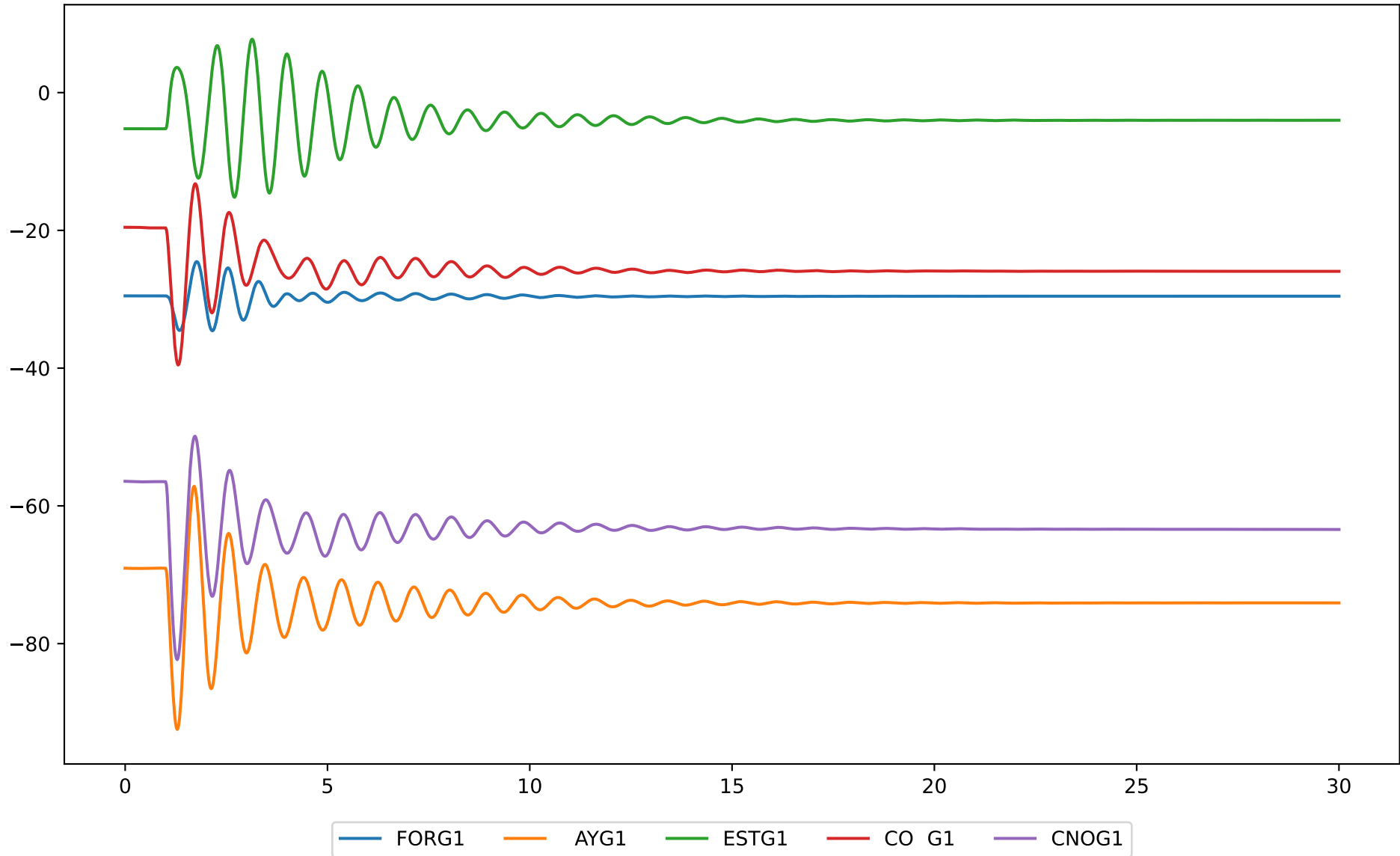




### Voltajes 115kV - Panama

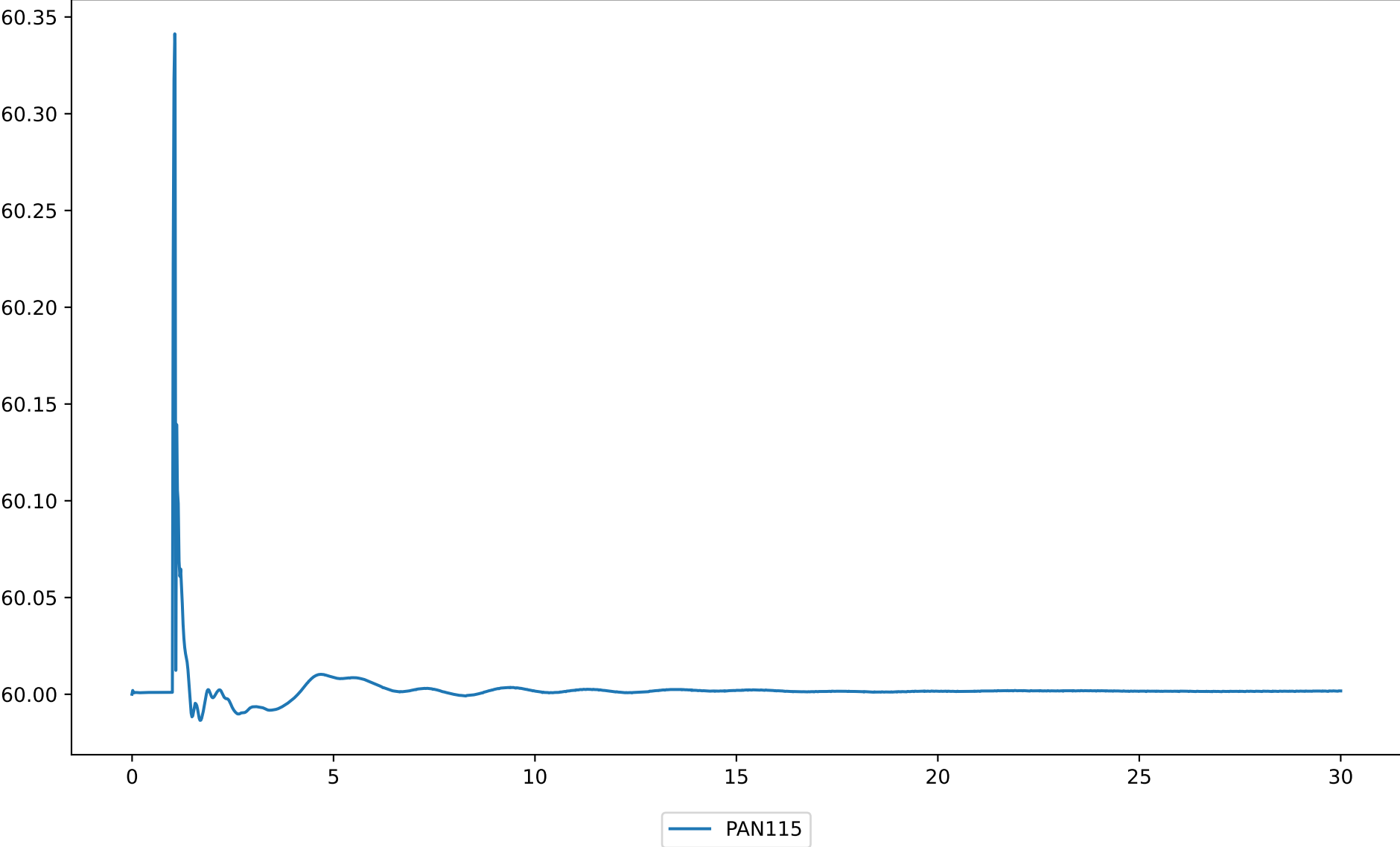


### Angulos de Rotacion de Maquinas - Panama

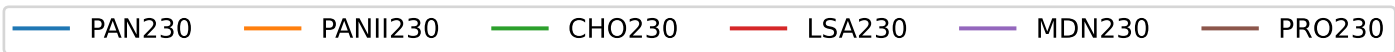
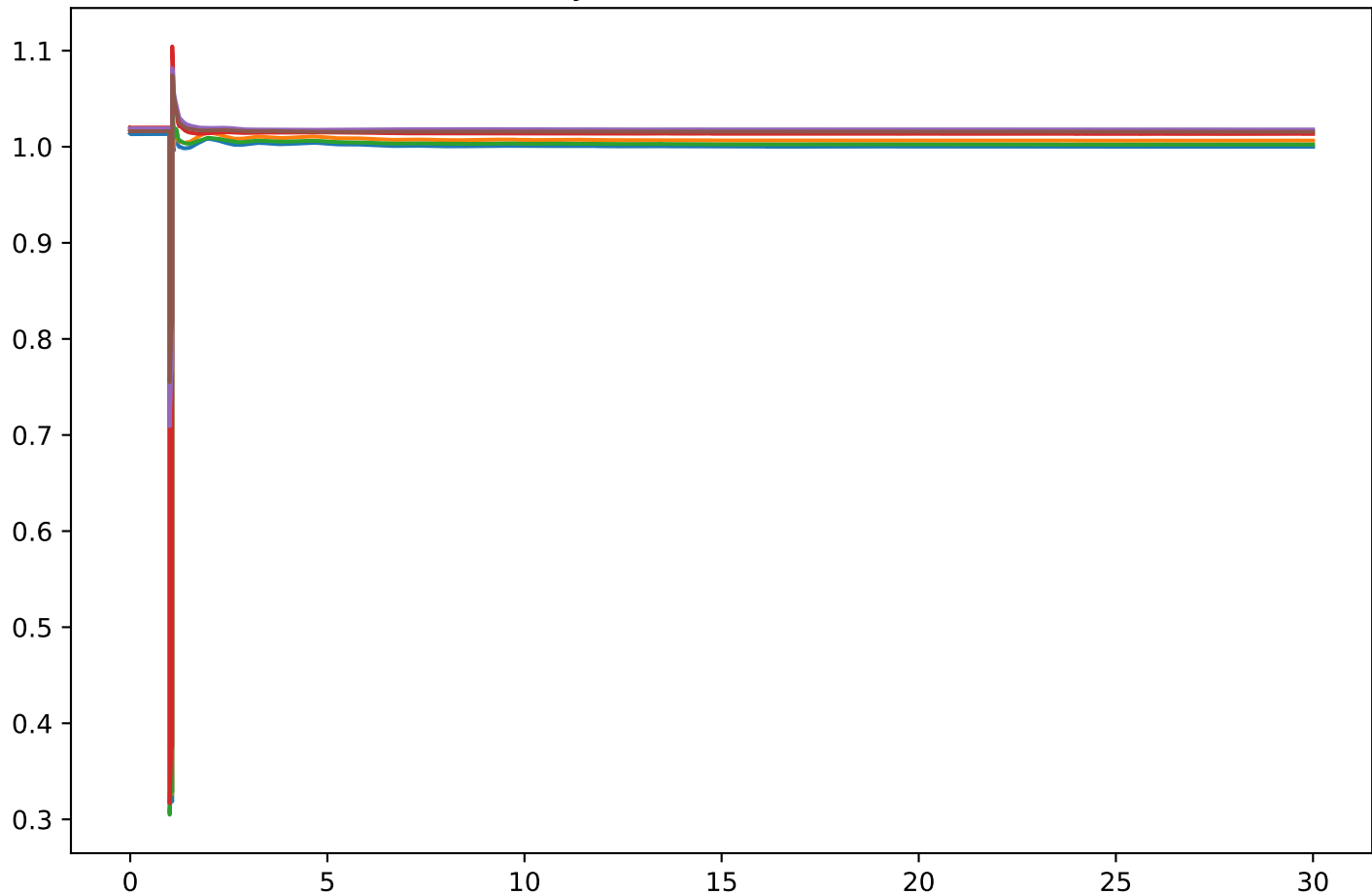


**2026 SECA**

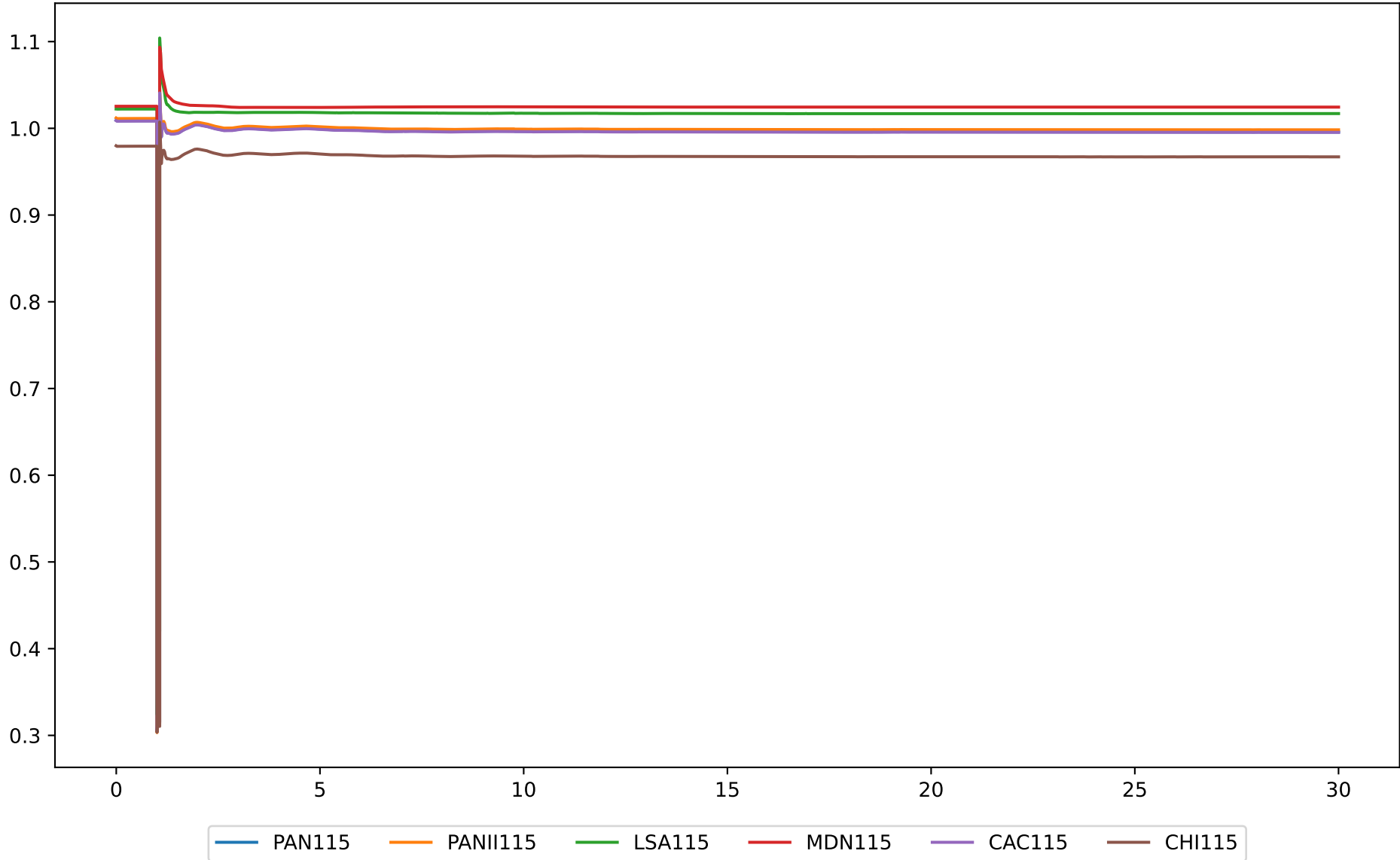
### Frecuencia (Hz)



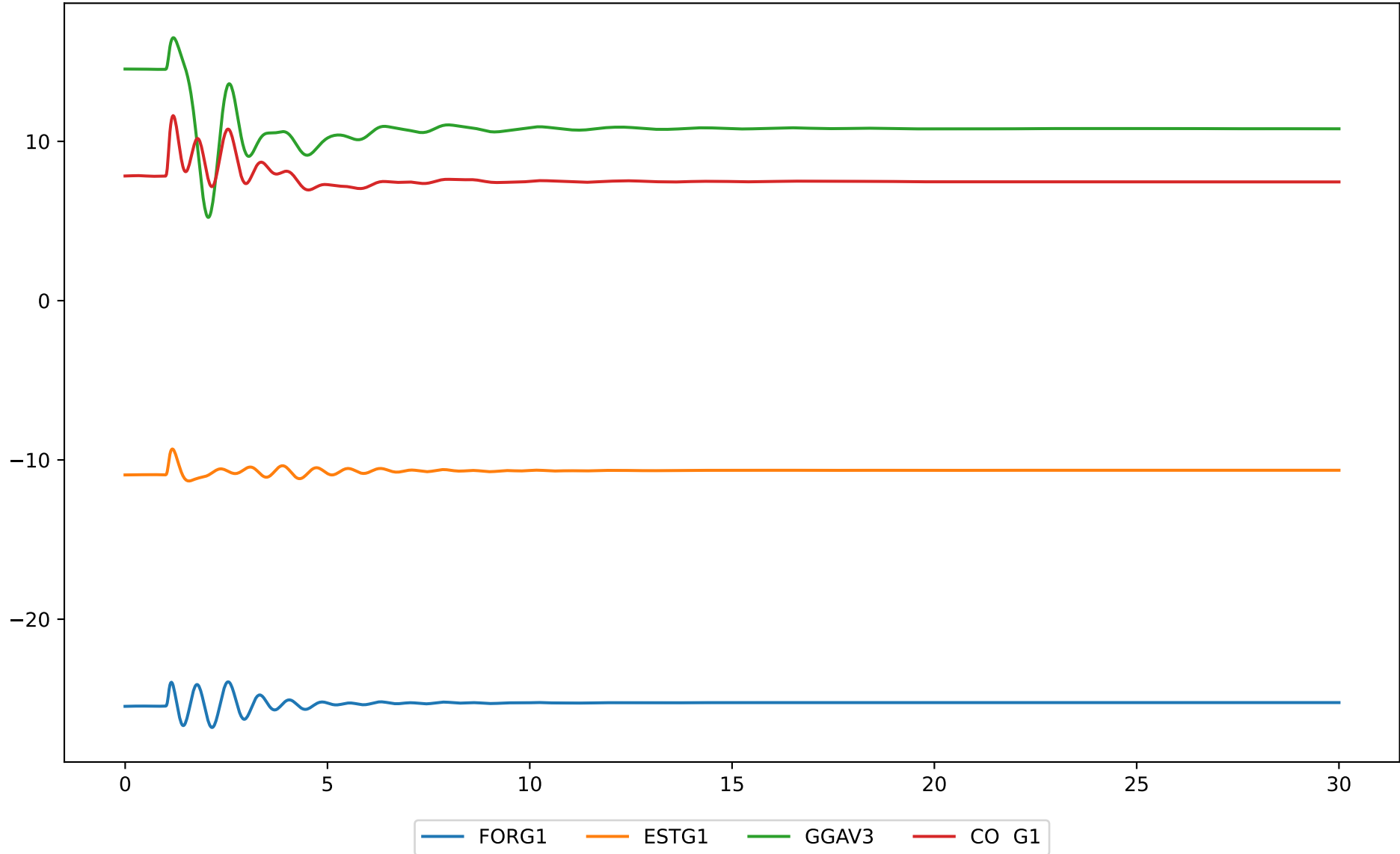
# Voltajes 230kV - Panama



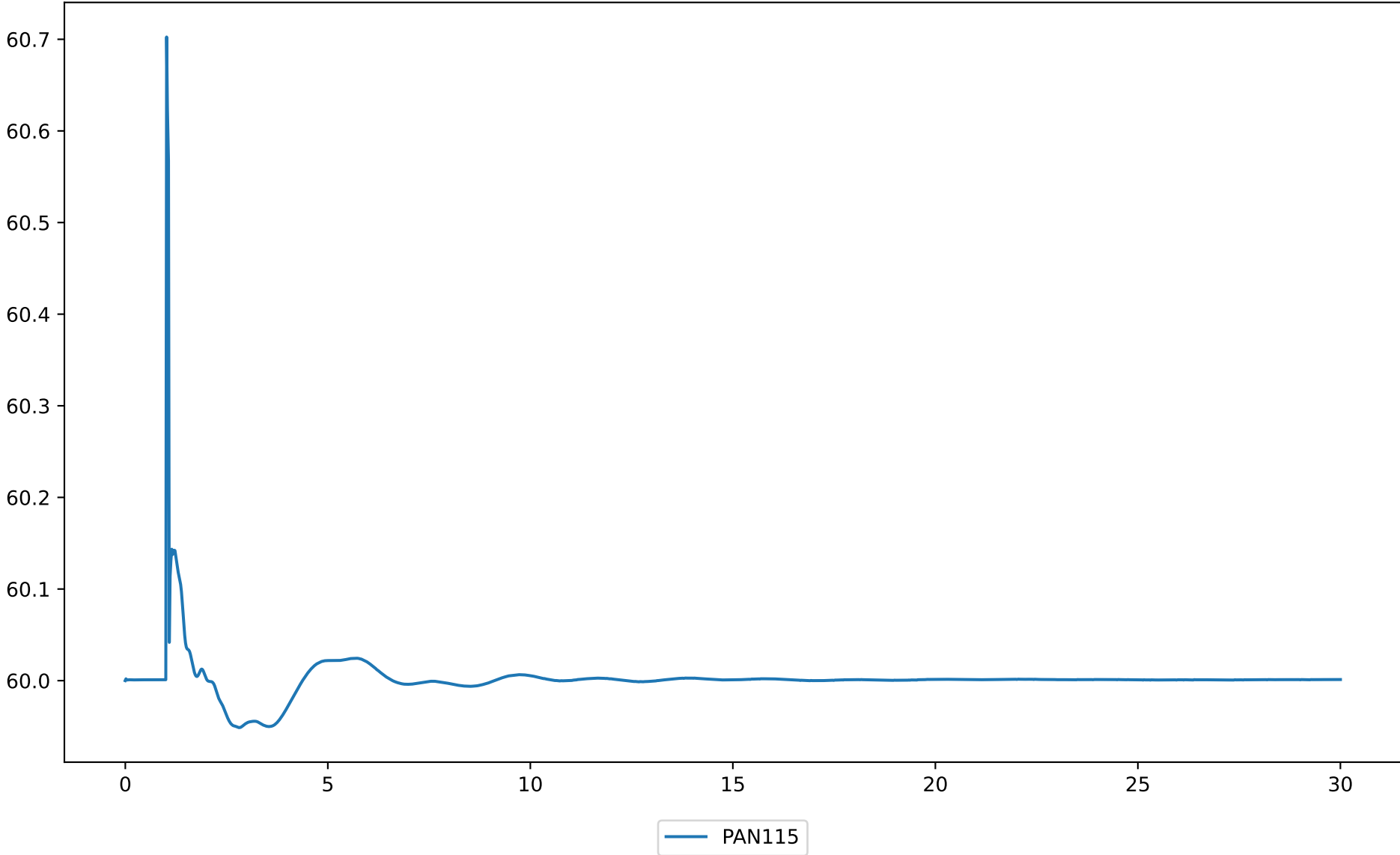
### Voltajes 115kV - Panama



### Angulos de Rotacion de Maquinas - Panama

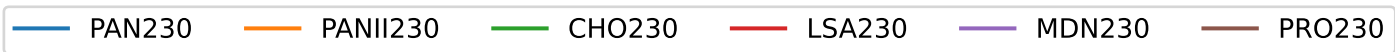
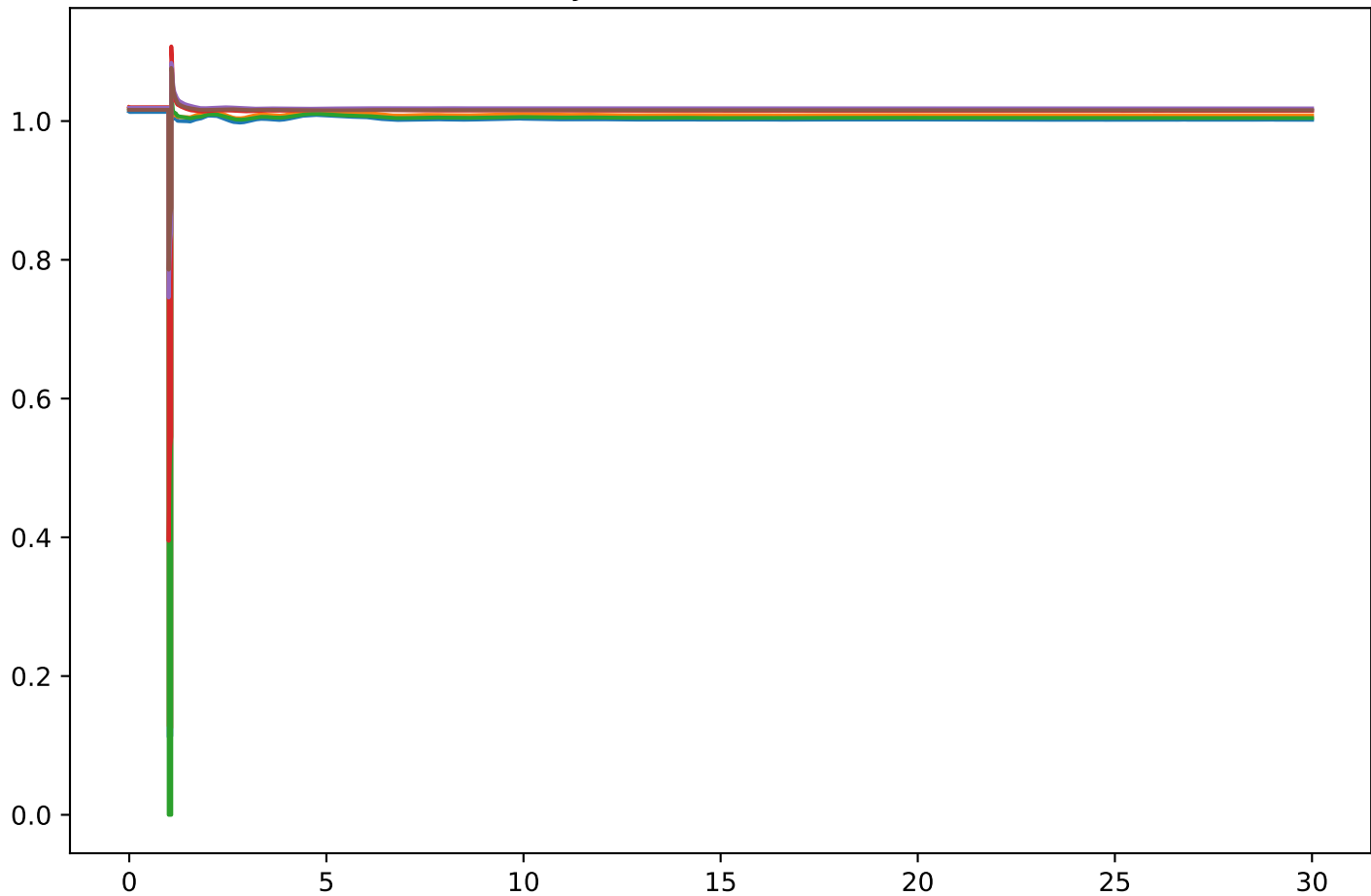


### Frecuencia (Hz)

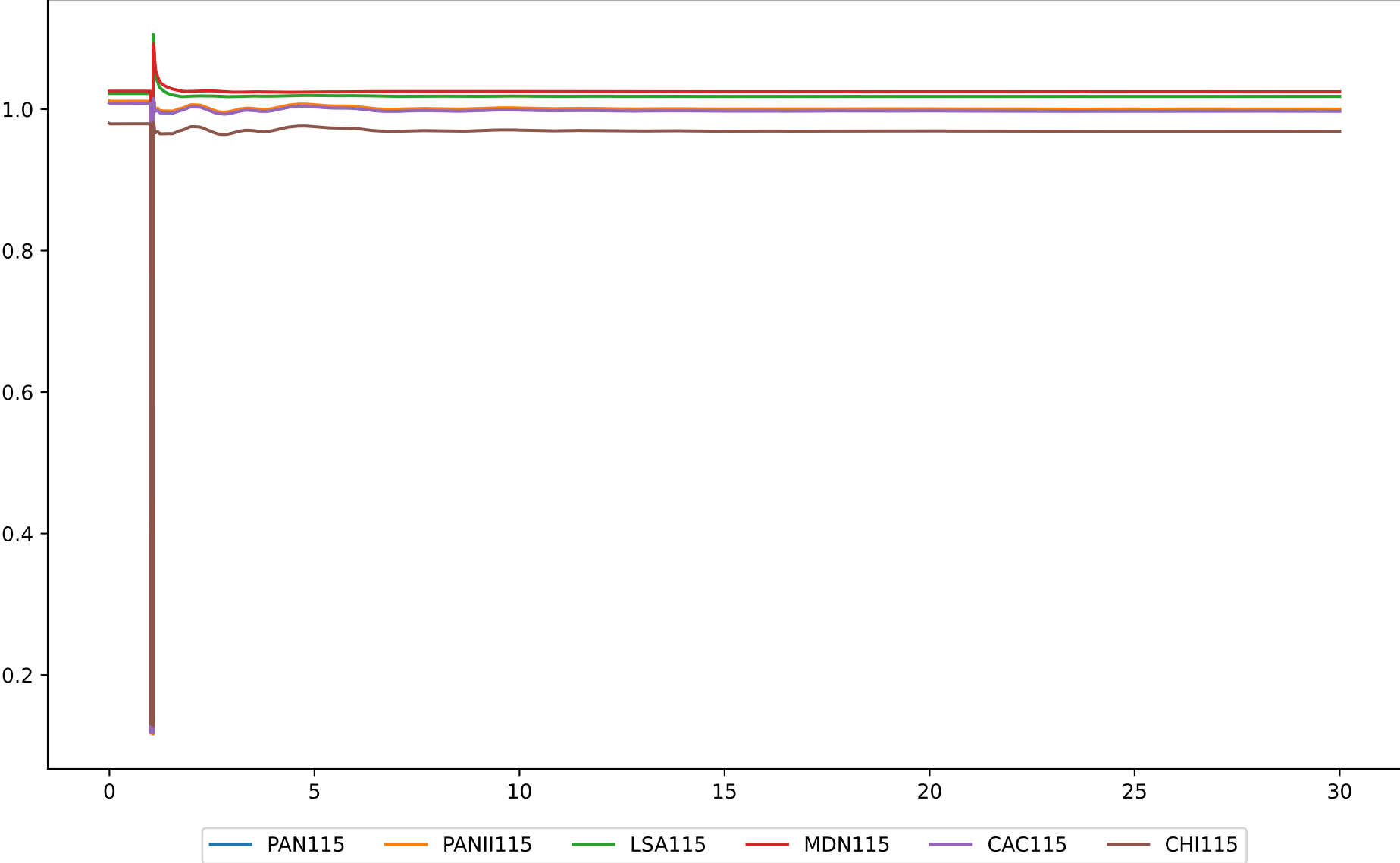




# Voltajes 230kV - Panama



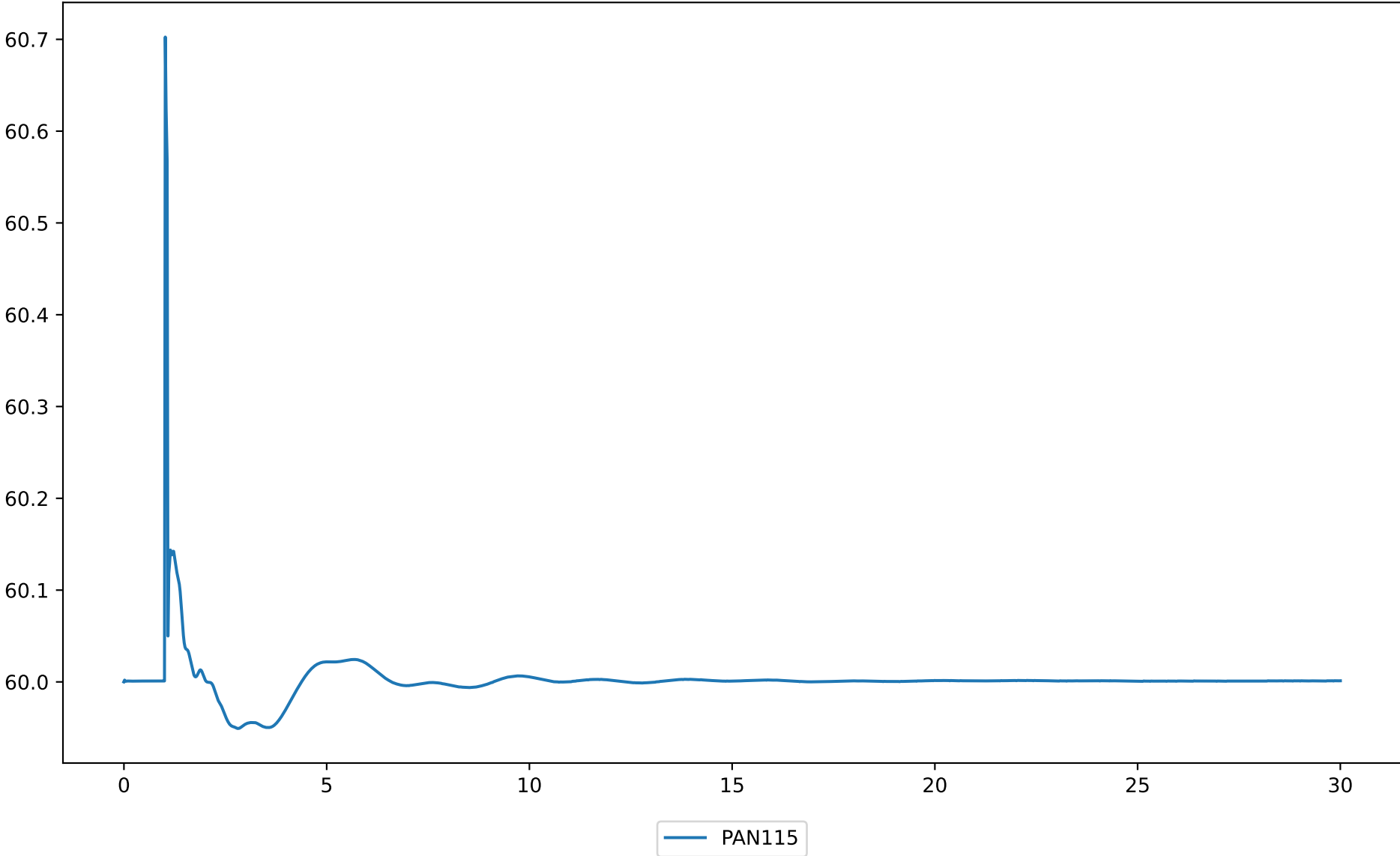
### Voltajes 115kV - Panama



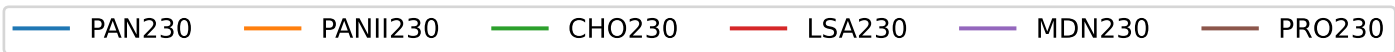
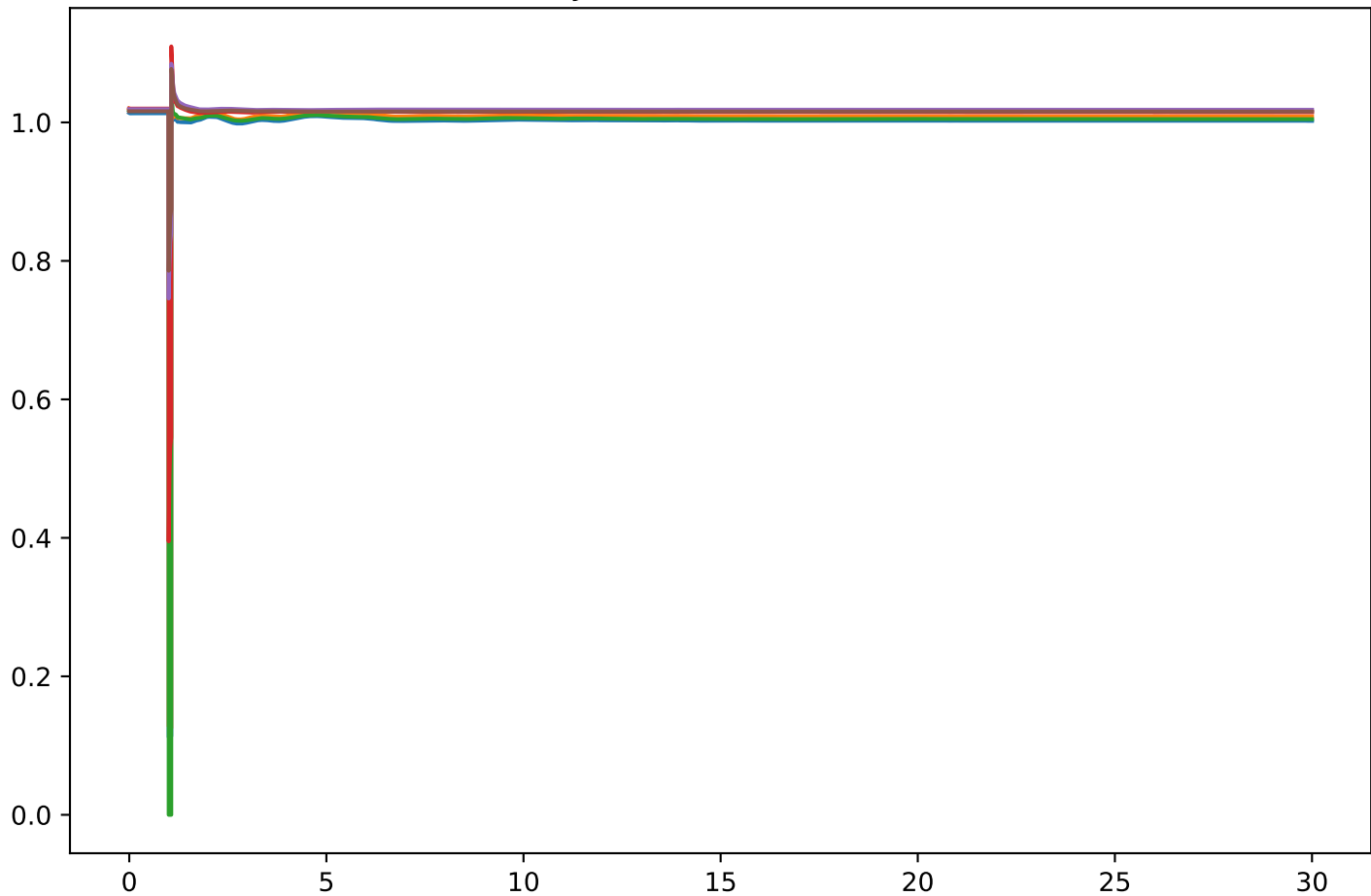
### Angulos de Rotacion de Maquinas - Panama



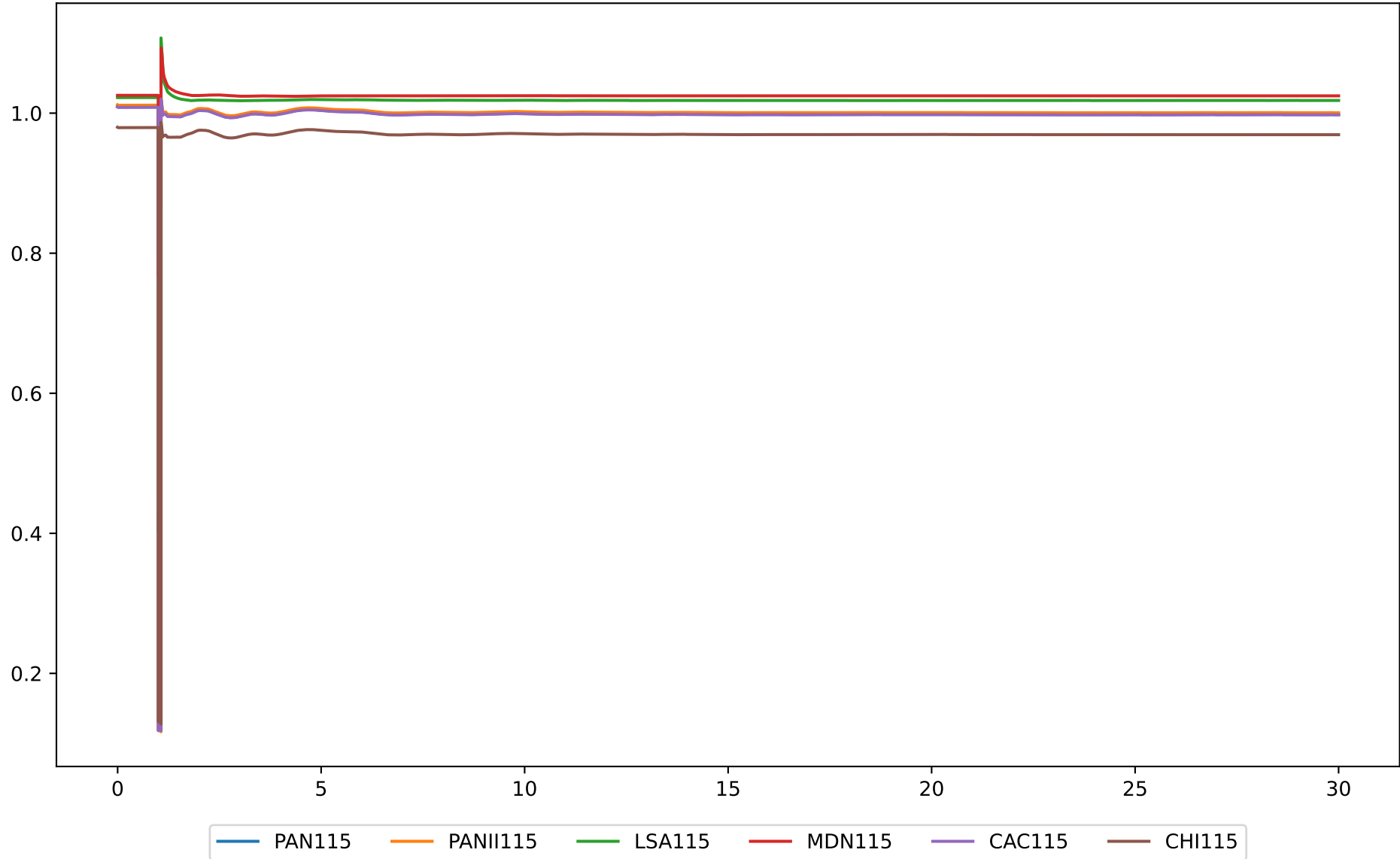
### Frecuencia (Hz)



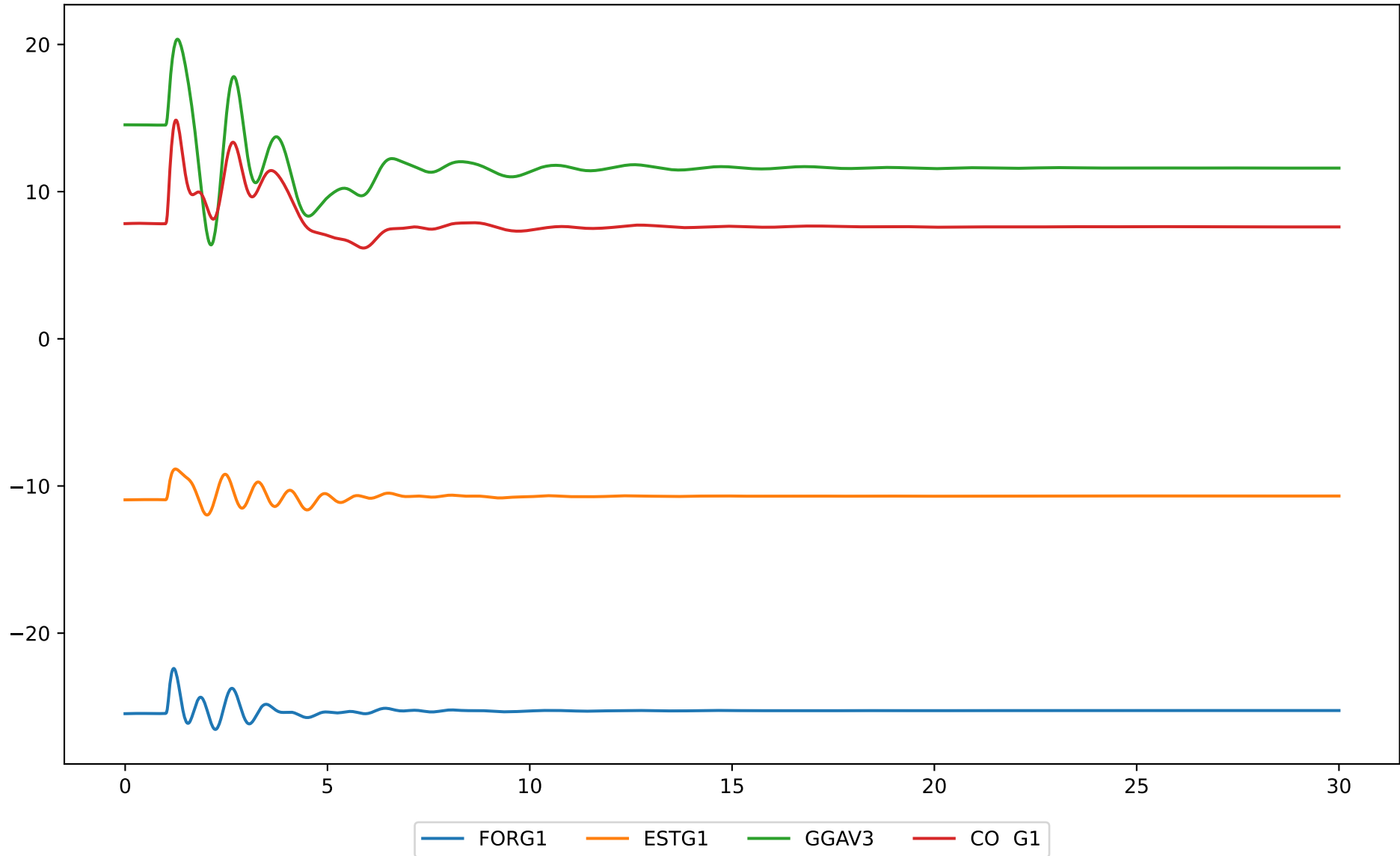
# Voltajes 230kV - Panama



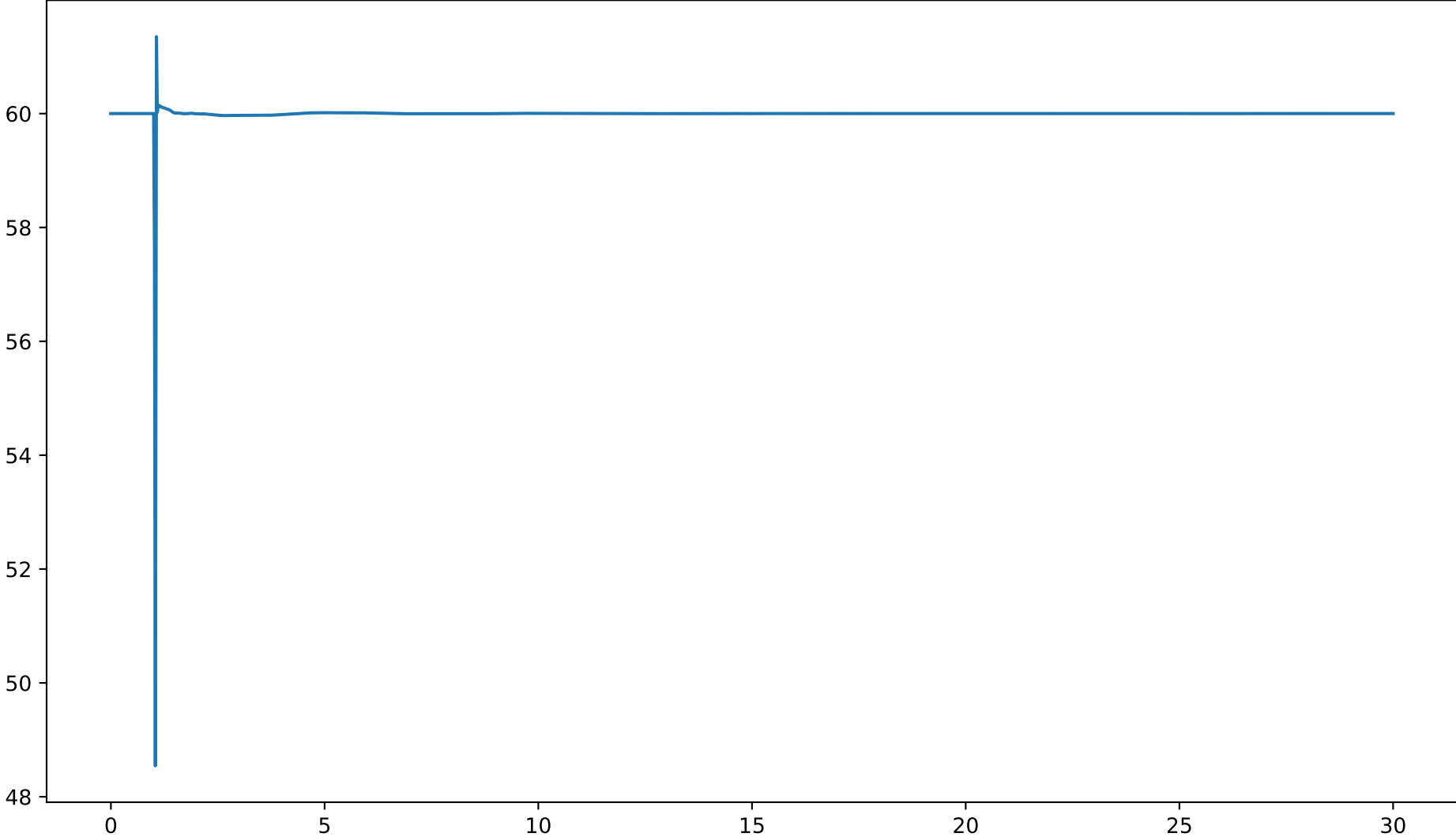
## Voltajes 115kV - Panama



### Angulos de Rotacion de Maquinas - Panama



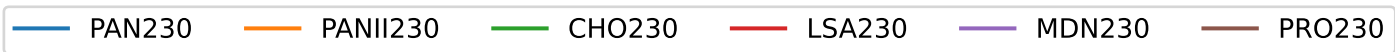
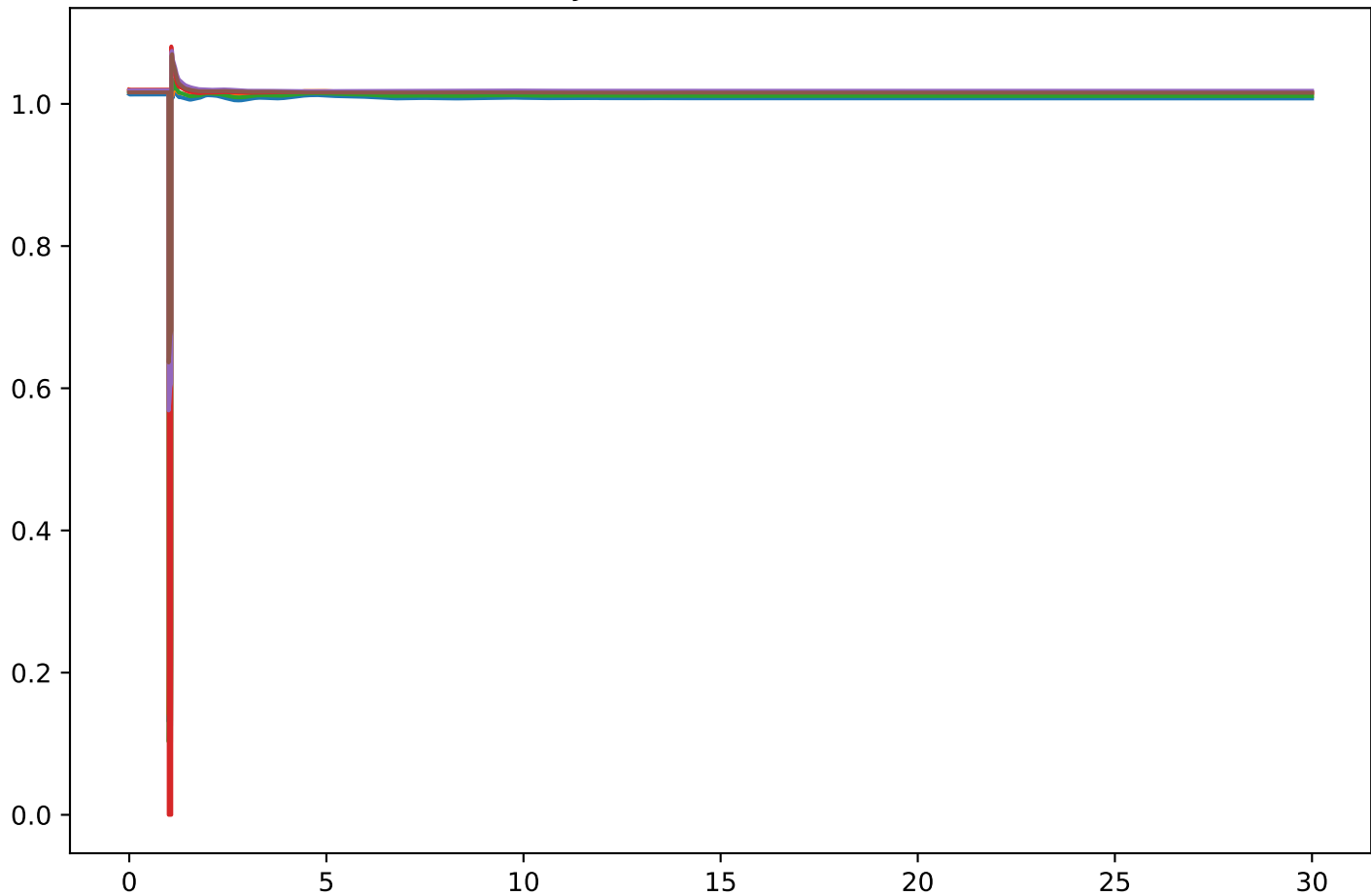
### Frecuencia (Hz)



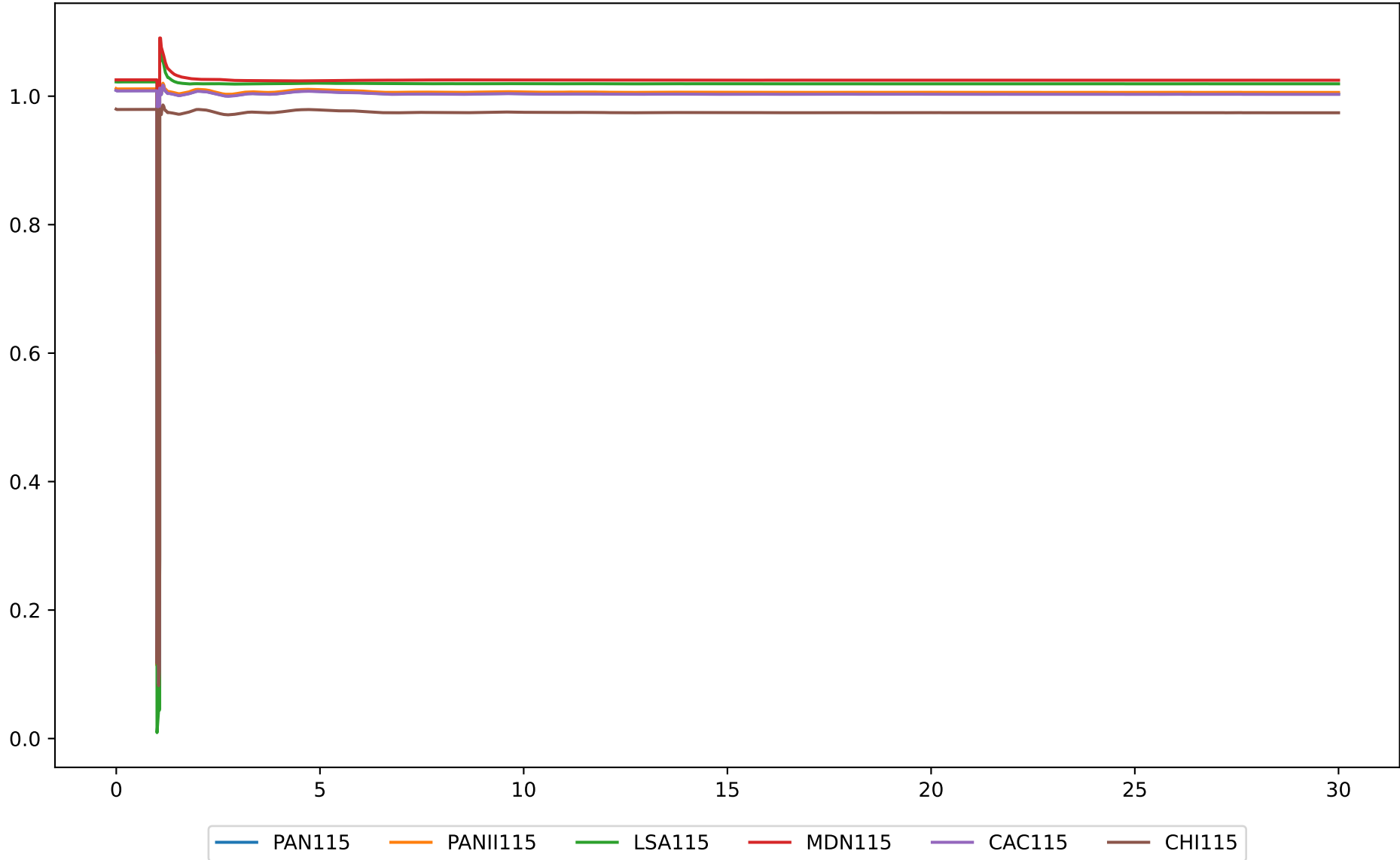
PAN115



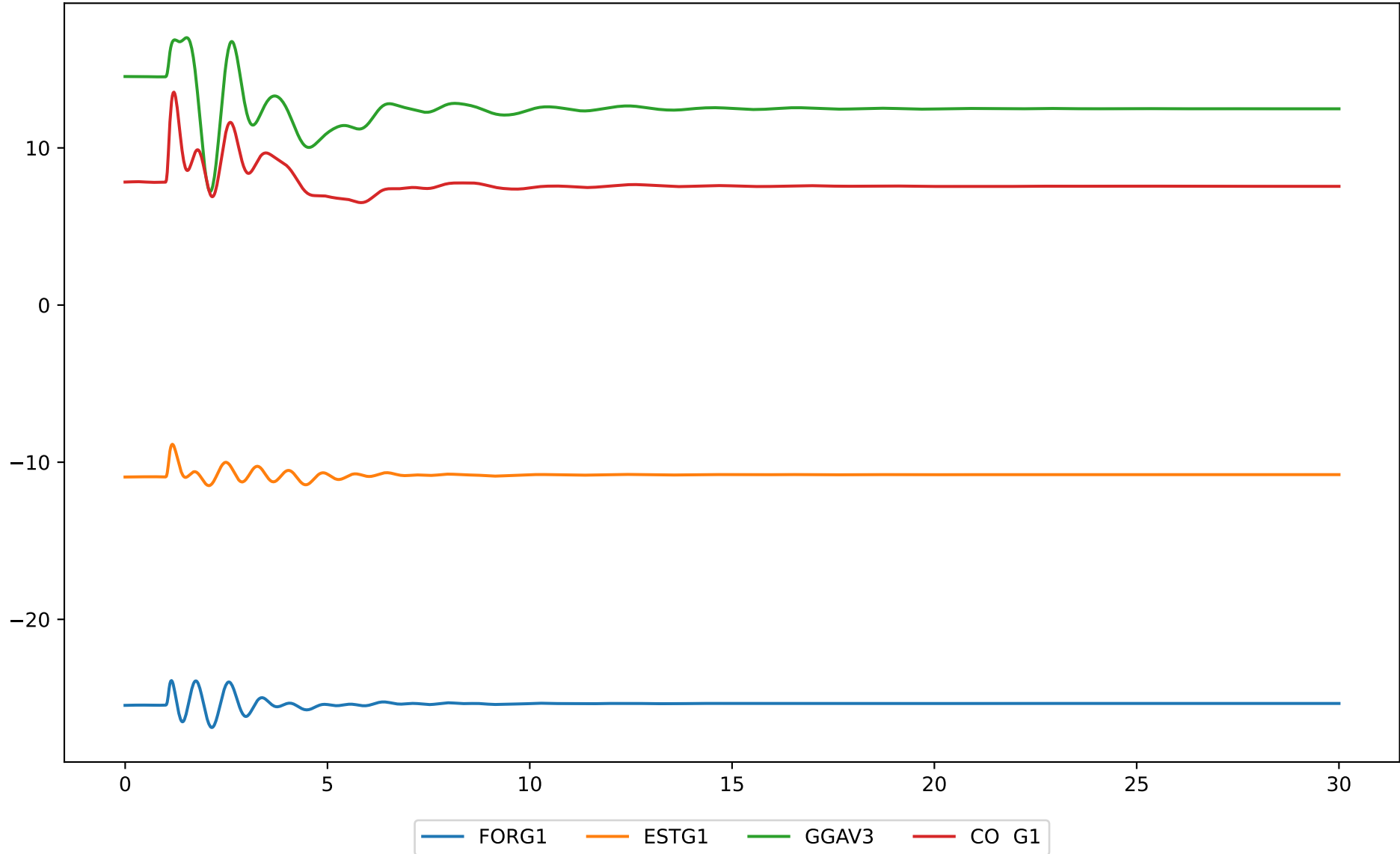
# Voltajes 230kV - Panama



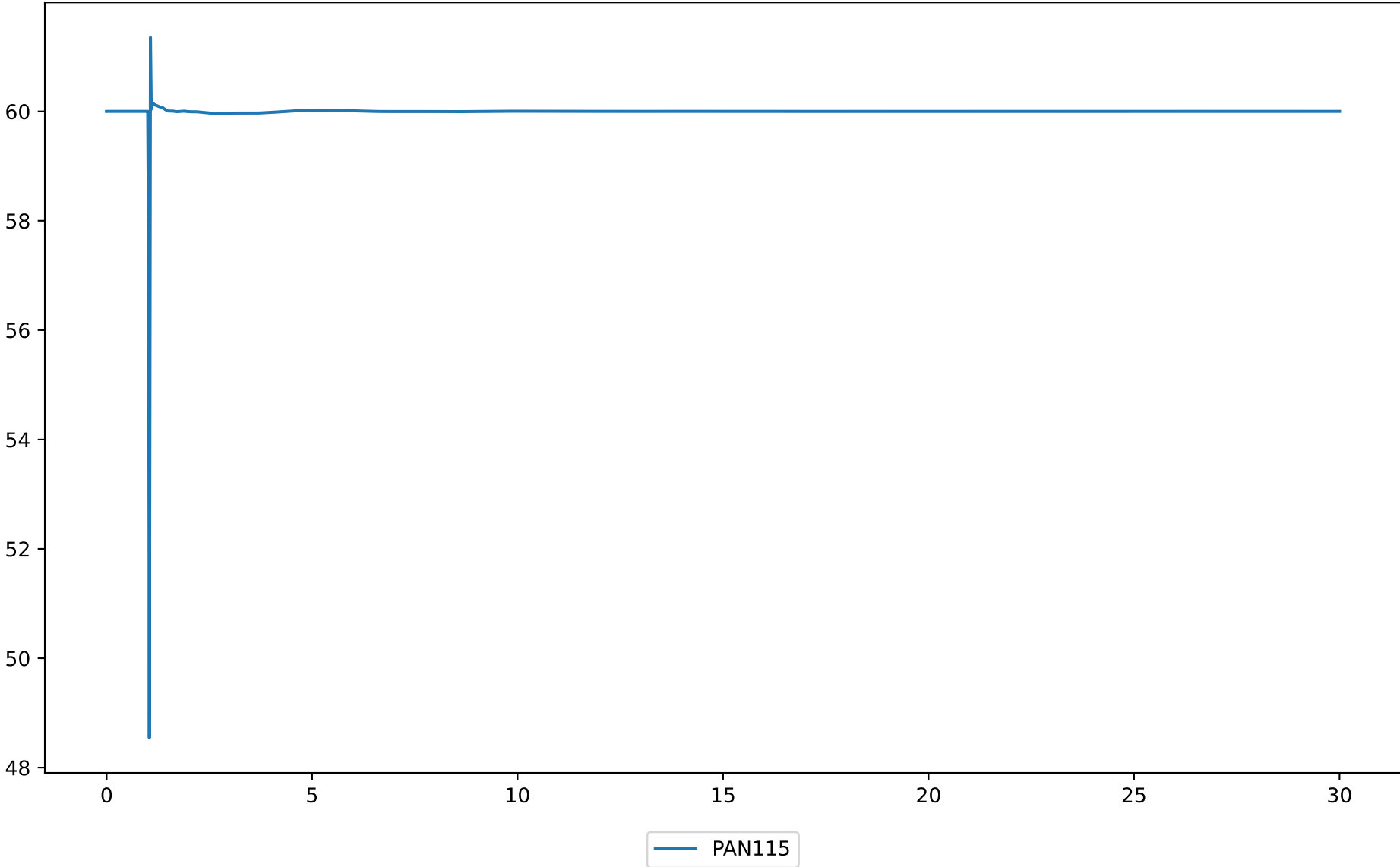
### Voltajes 115kV - Panama



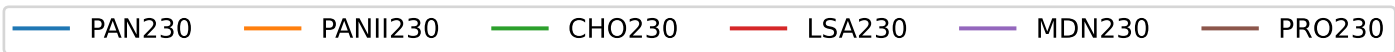
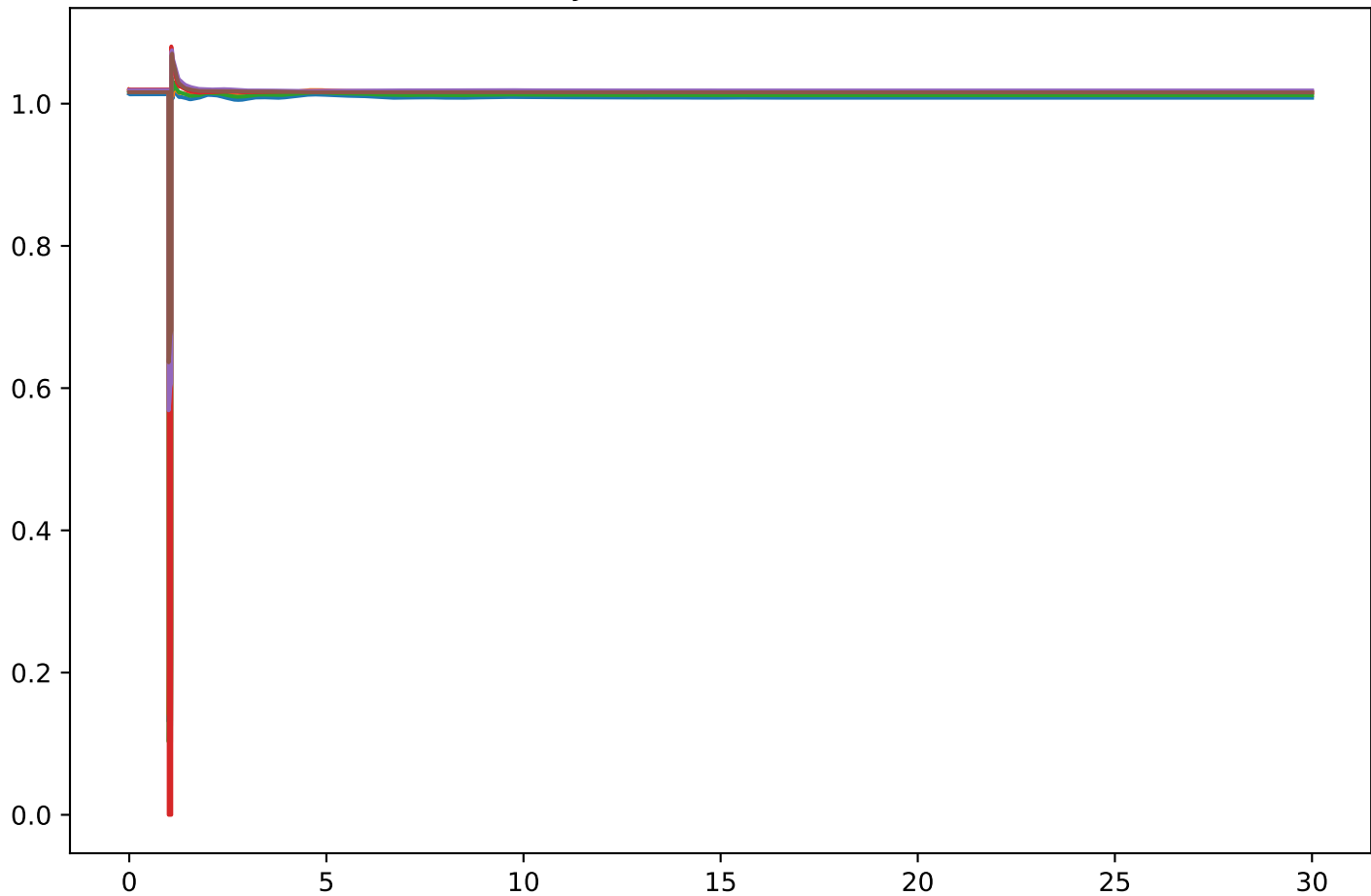
### Angulos de Rotacion de Maquinas - Panama



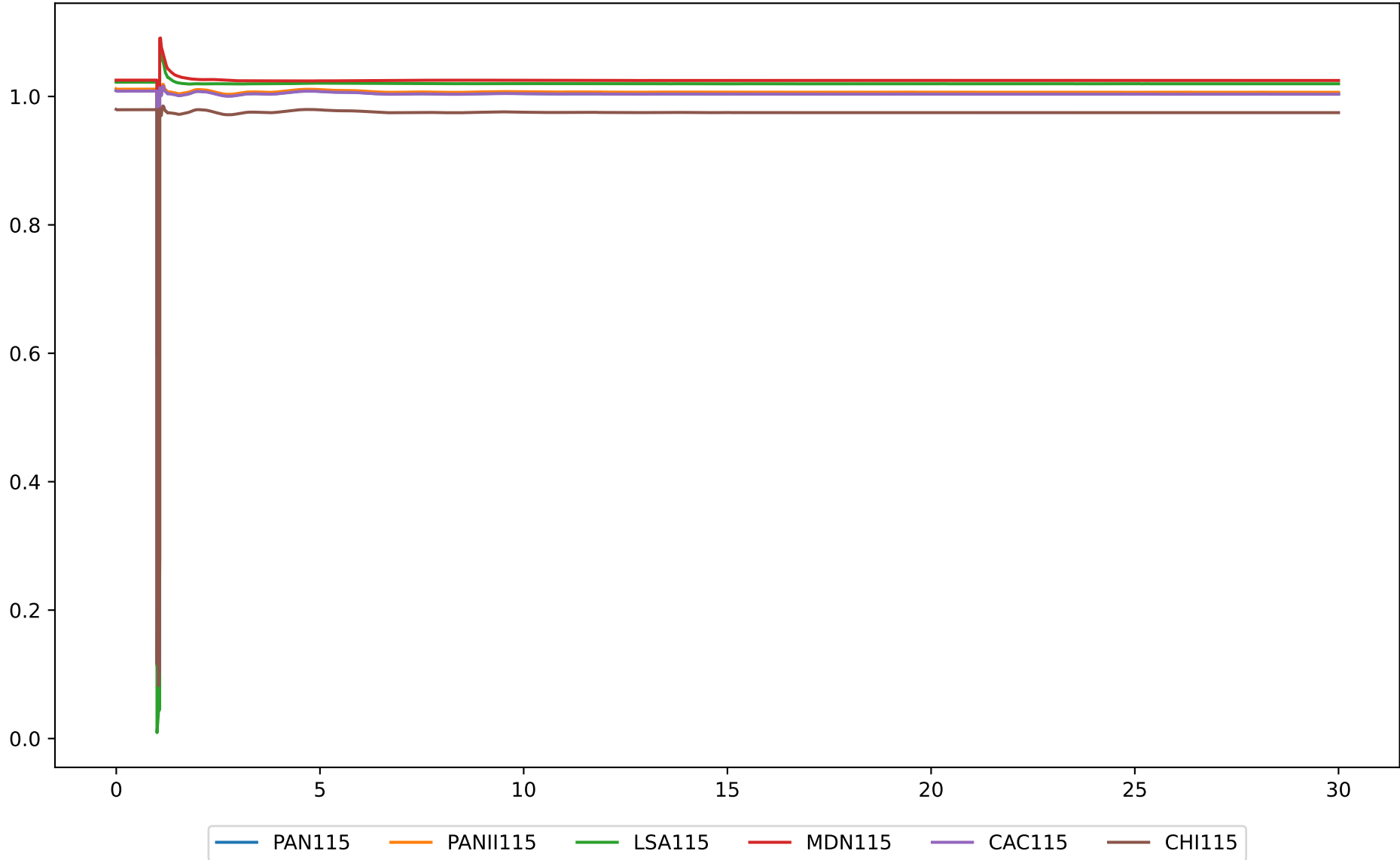
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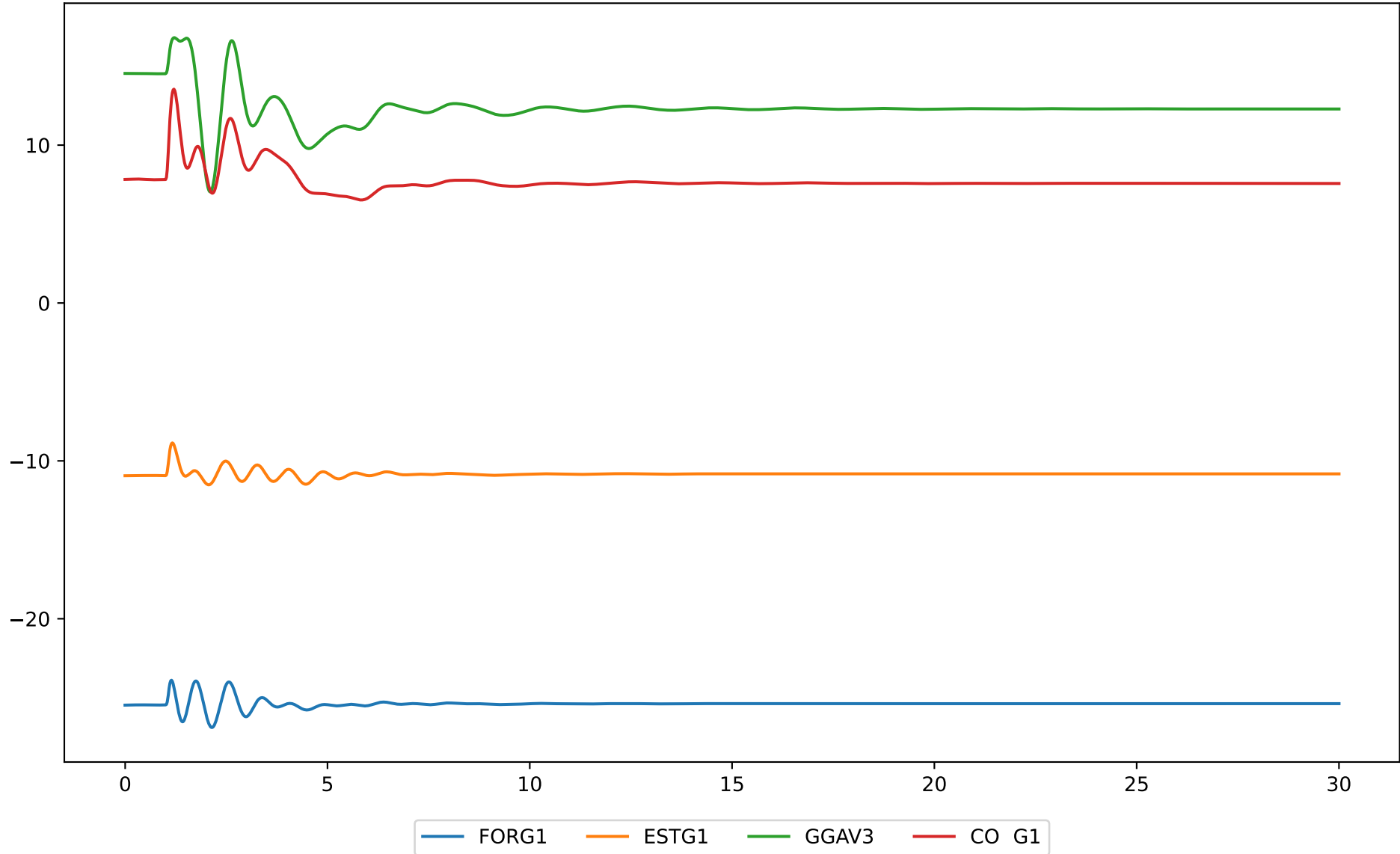
# Voltajes 230kV - Panama



### Voltajes 115kV - Panama



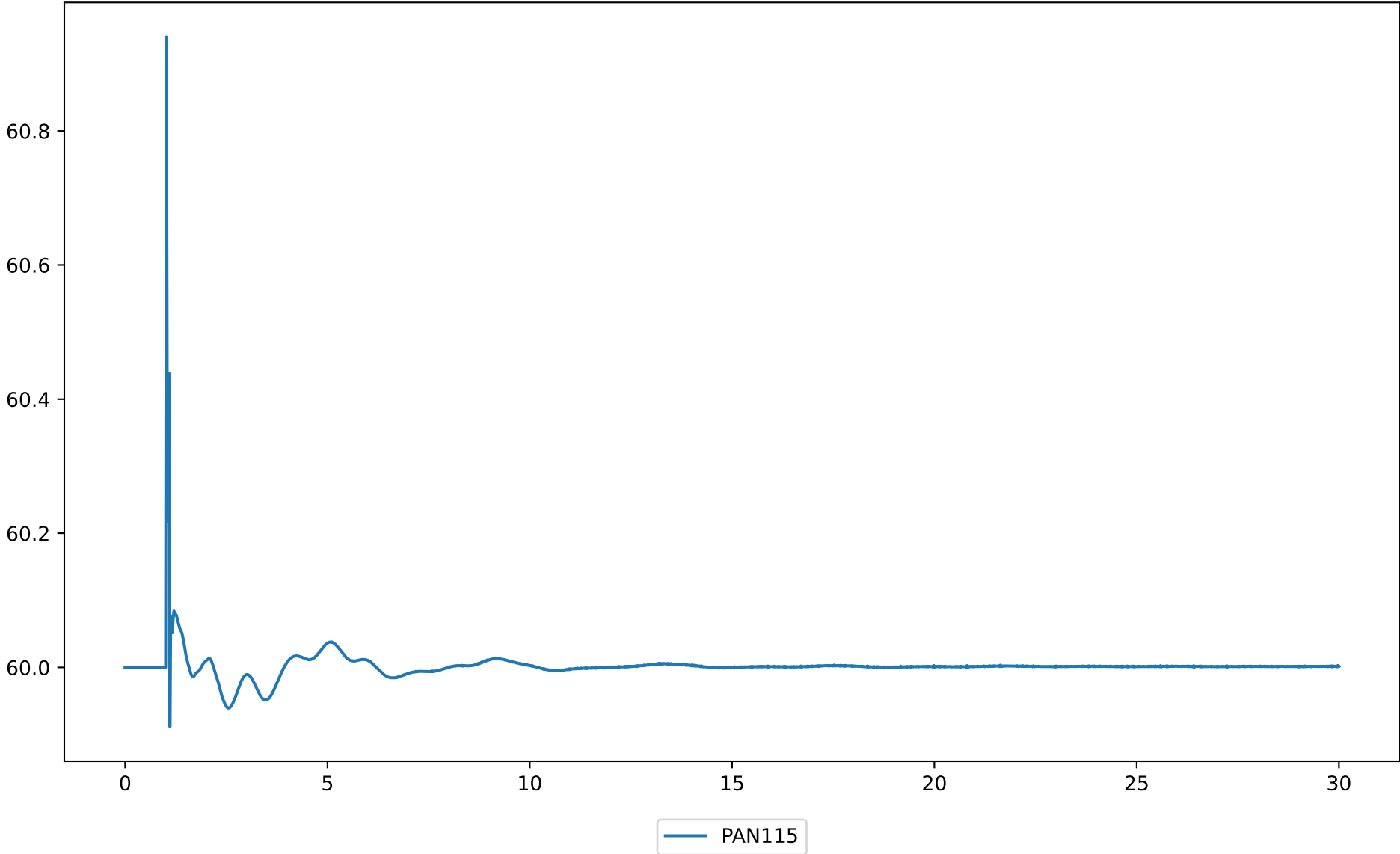
### Angulos de Rotacion de Maquinas - Panama



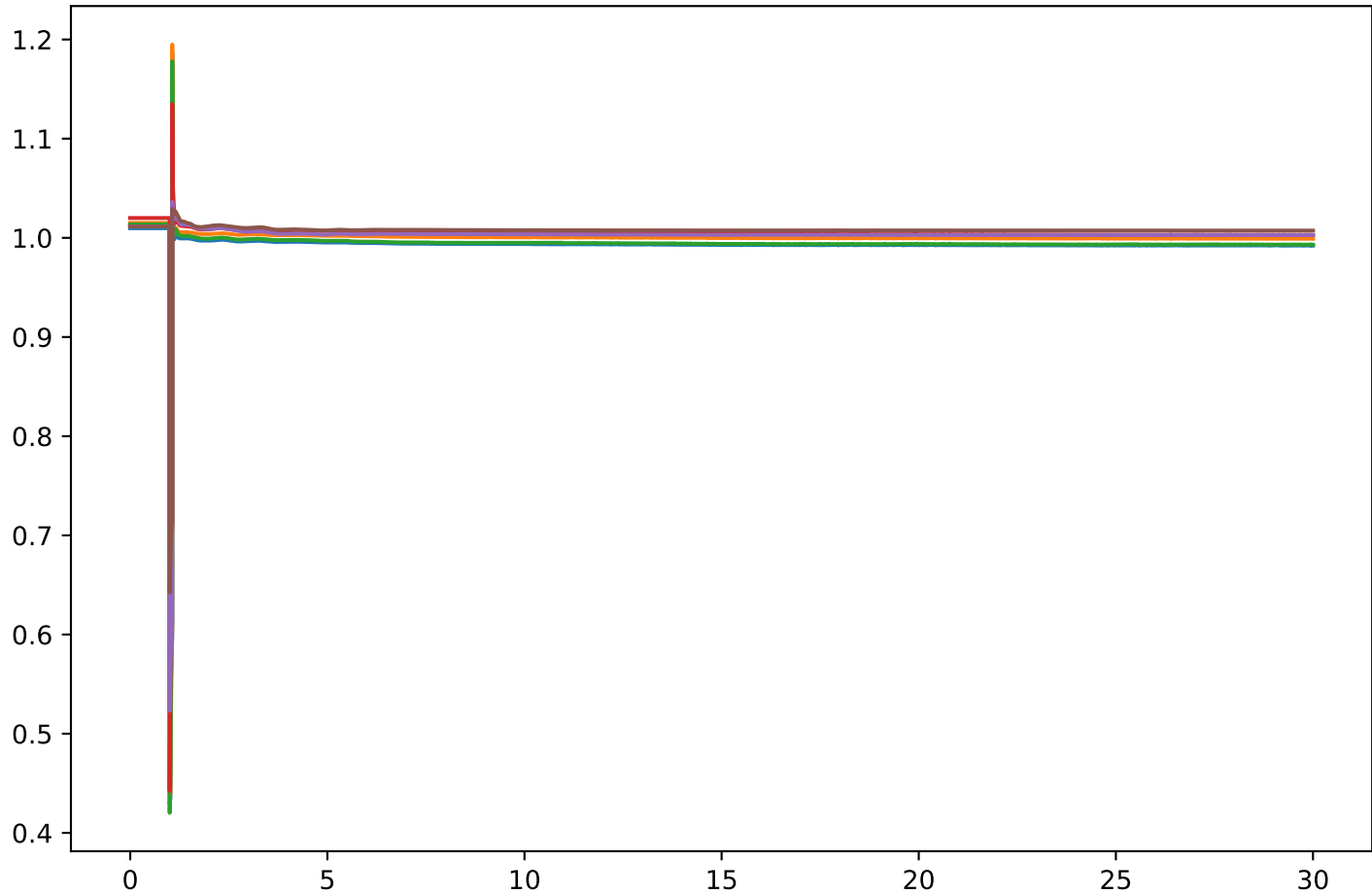
**2026 LLUVIOSA**



### Frecuencia (Hz)

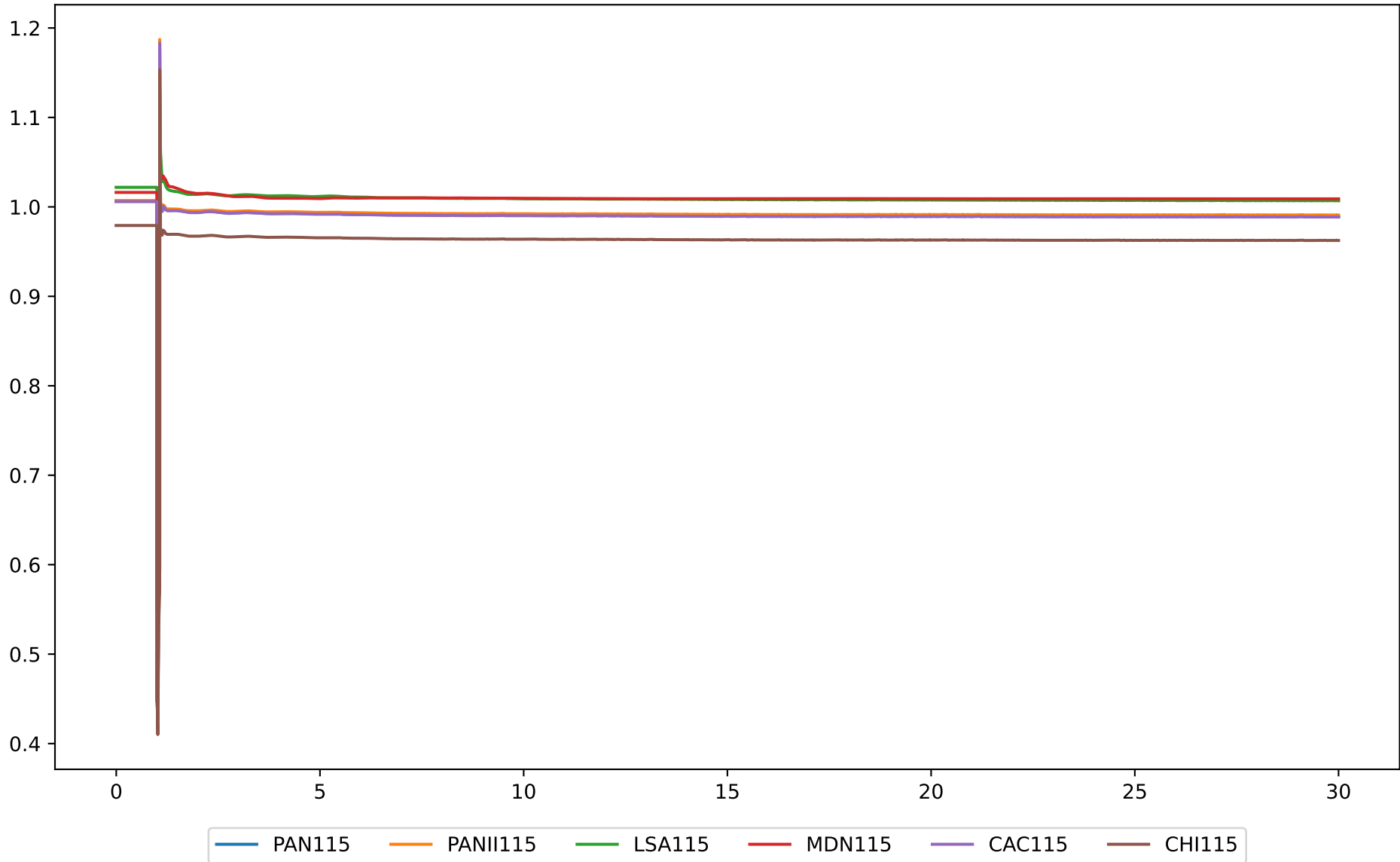


# Voltajes 230kV - Panama

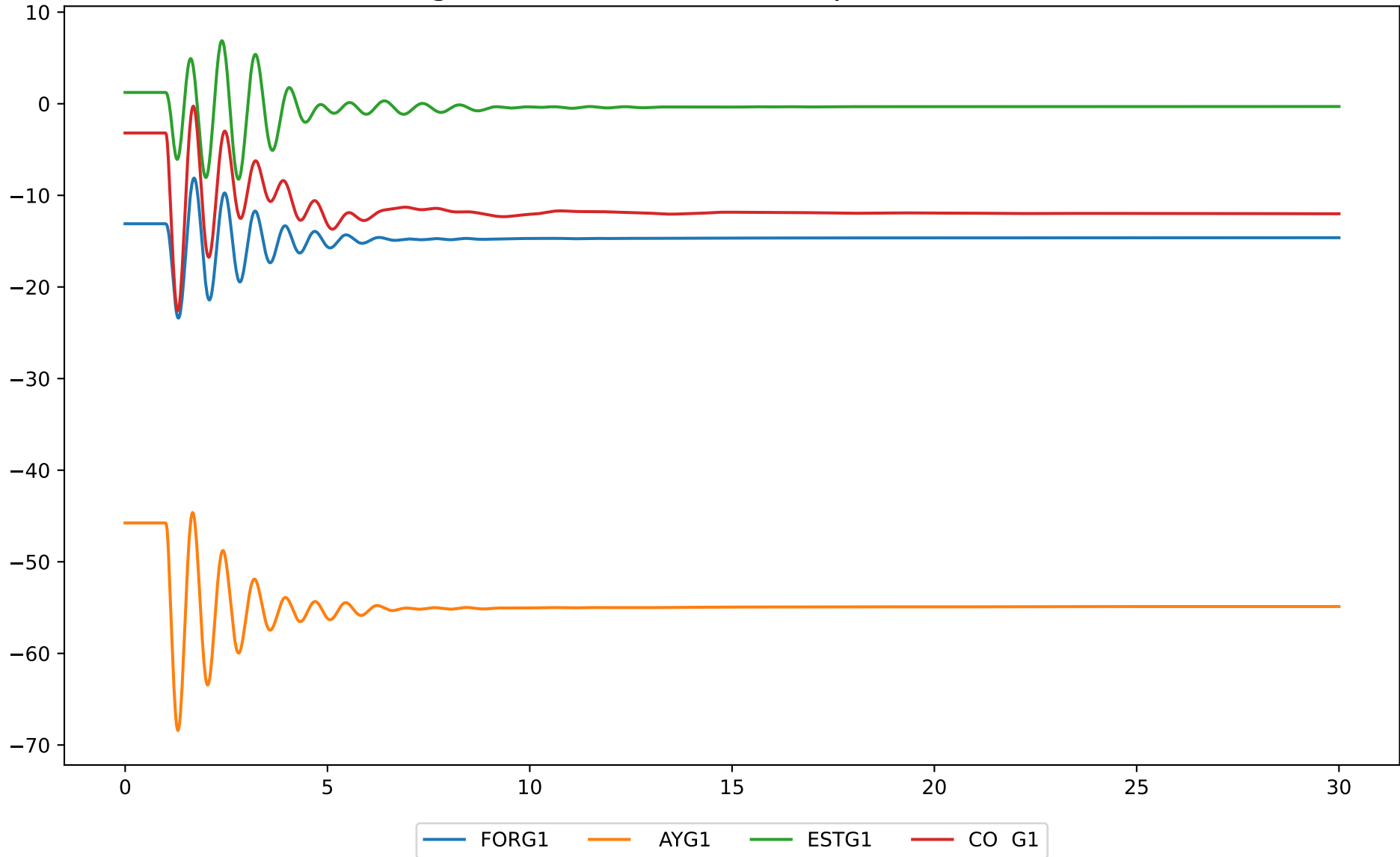


PAN230 PANII230 CHO230 LSA230 MDN230 PRO230

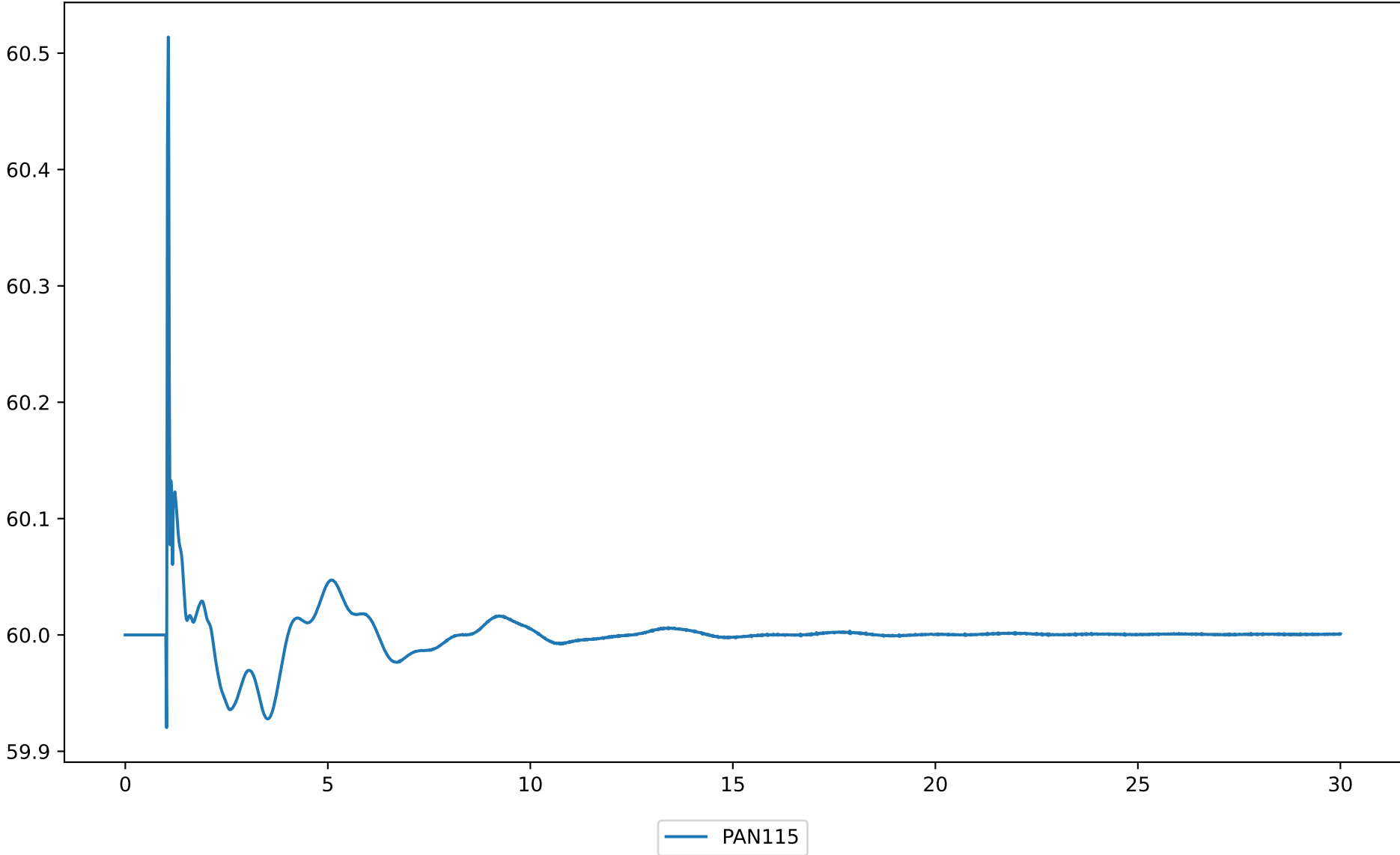
### Voltajes 115kV - Panama



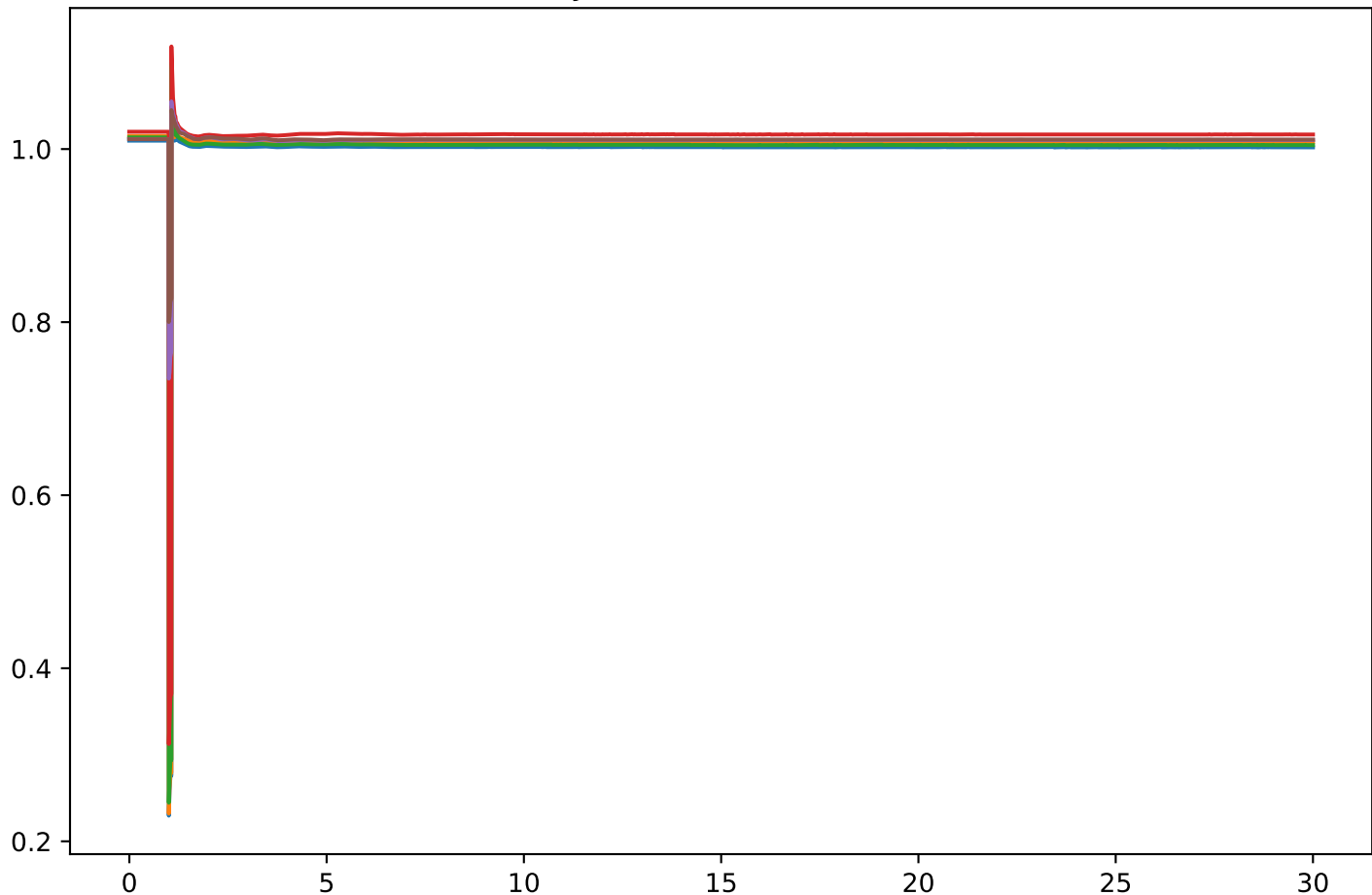
### Angulos de Rotacion de Maquinas - Panama



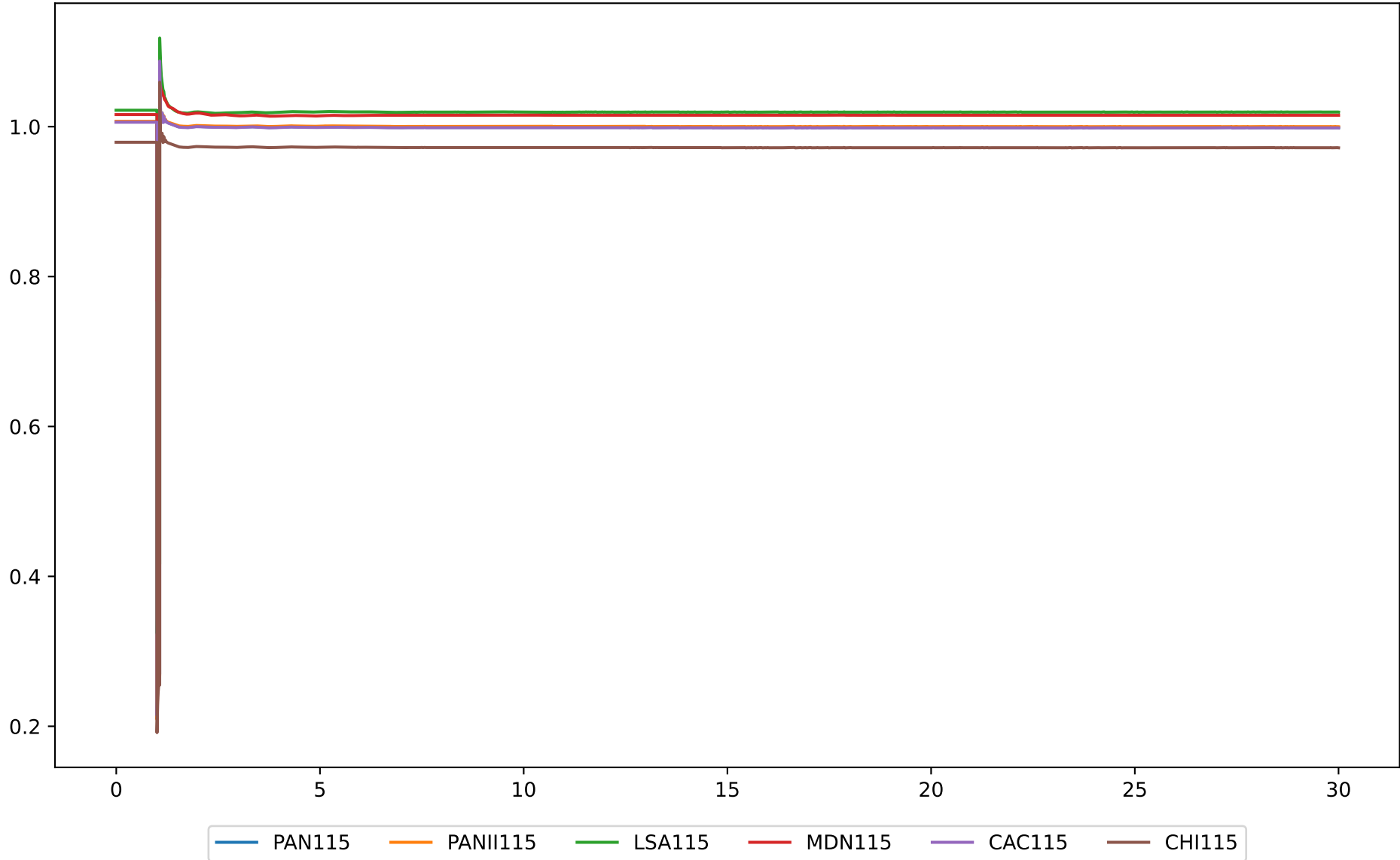
### Frecuencia (Hz)



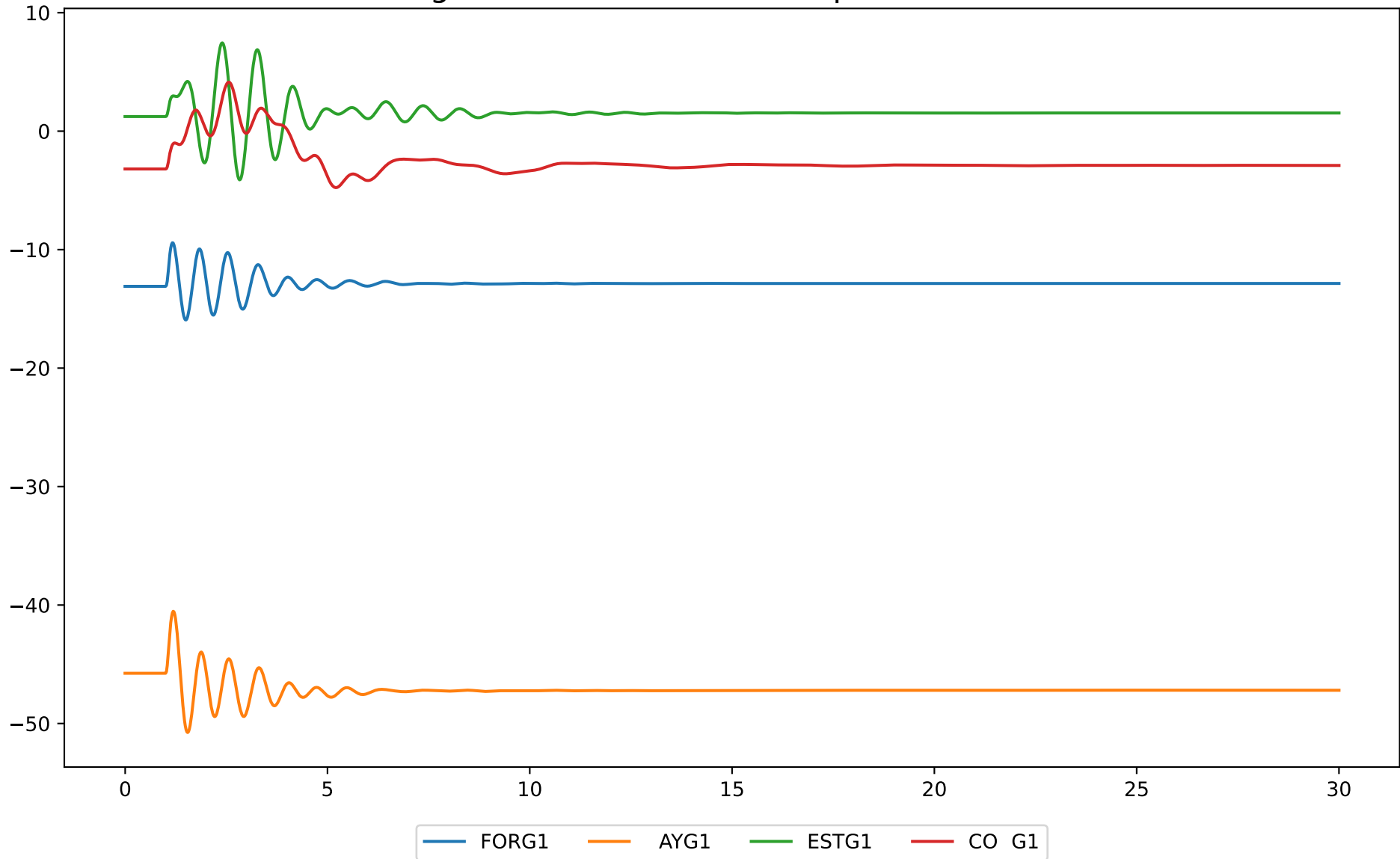
# Voltajes 230kV - Panama



### Voltajes 115kV - Panama

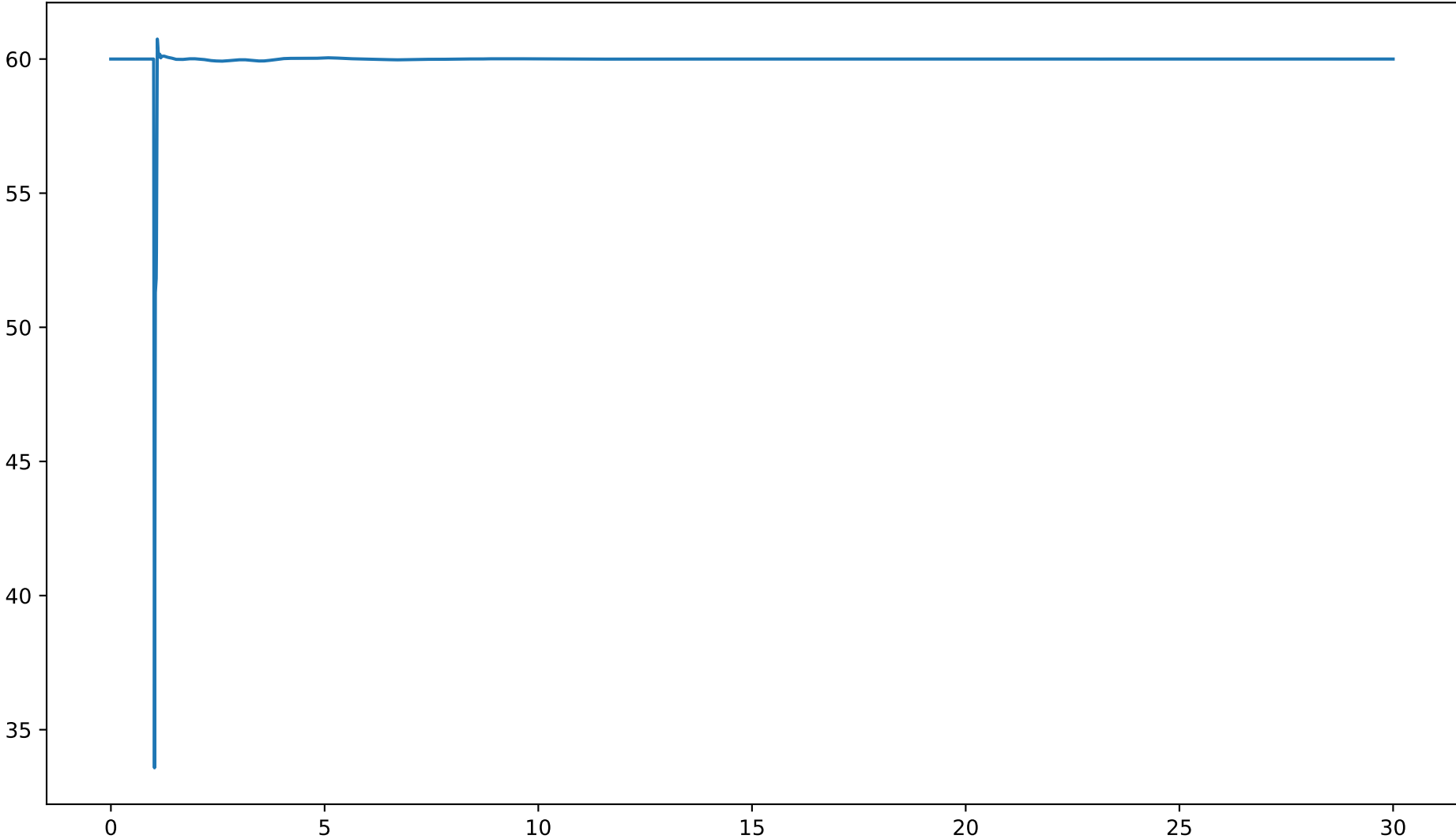


### Angulos de Rotacion de Maquinas - Panama



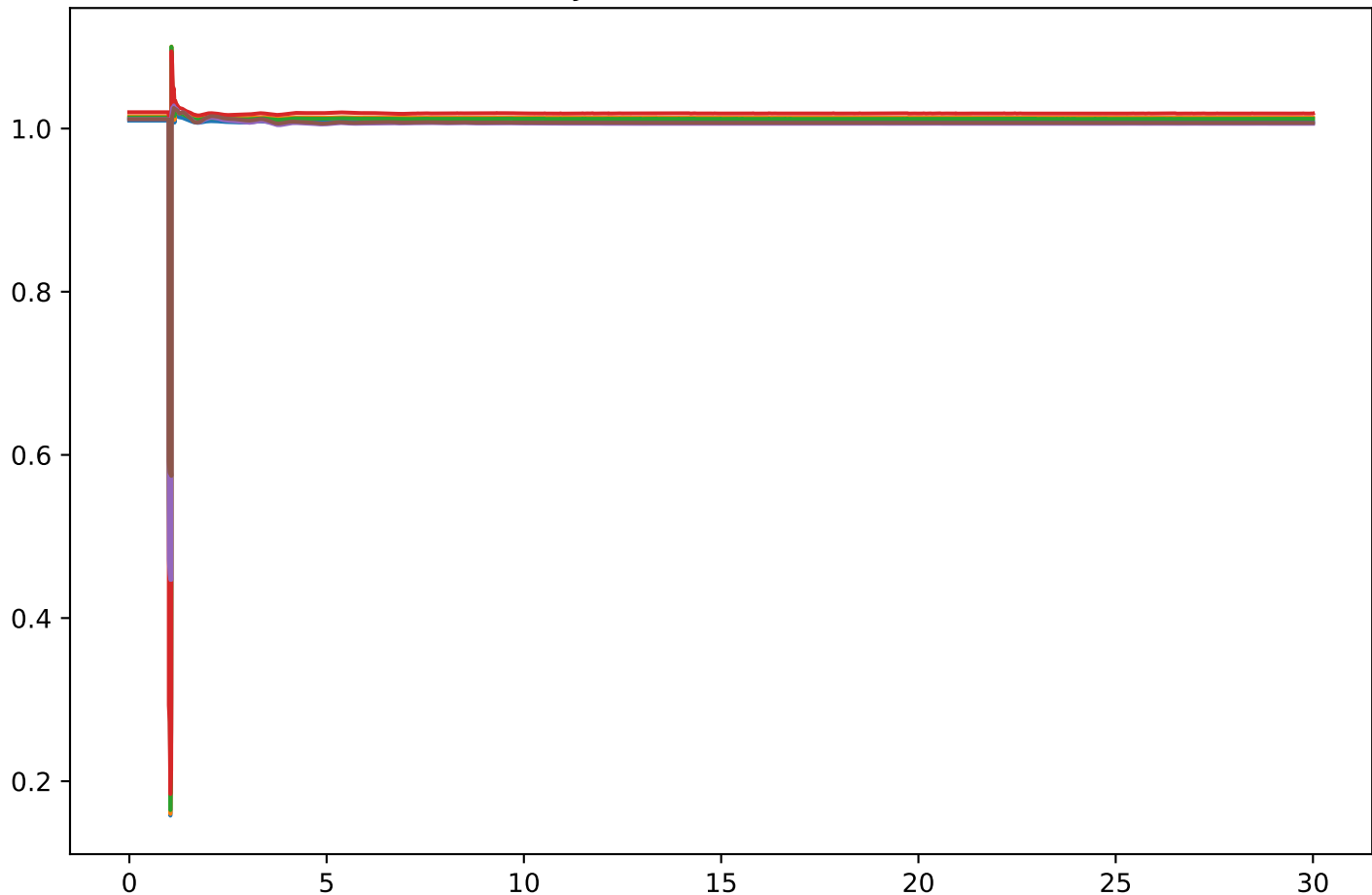


### Frecuencia (Hz)

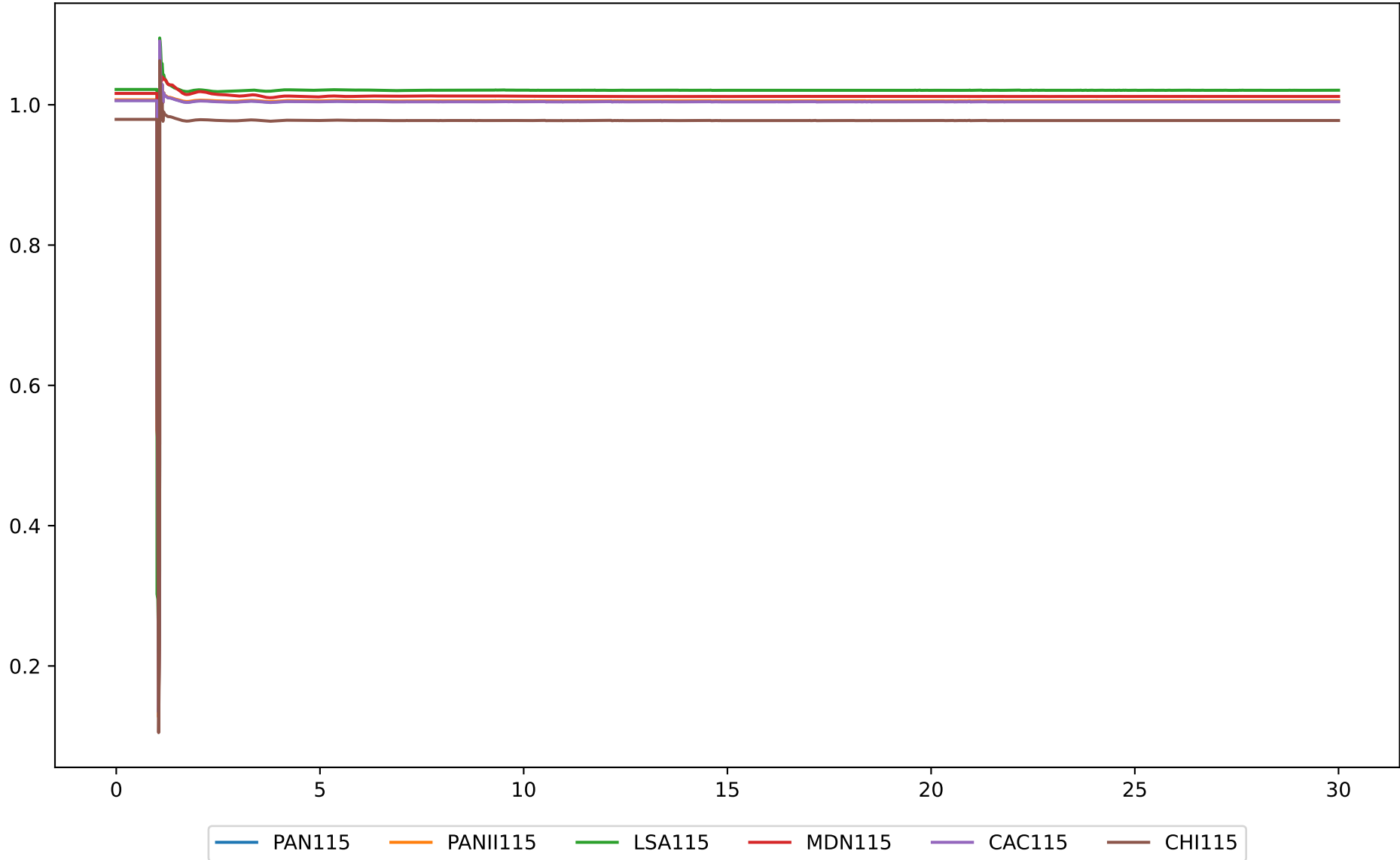


PAN115

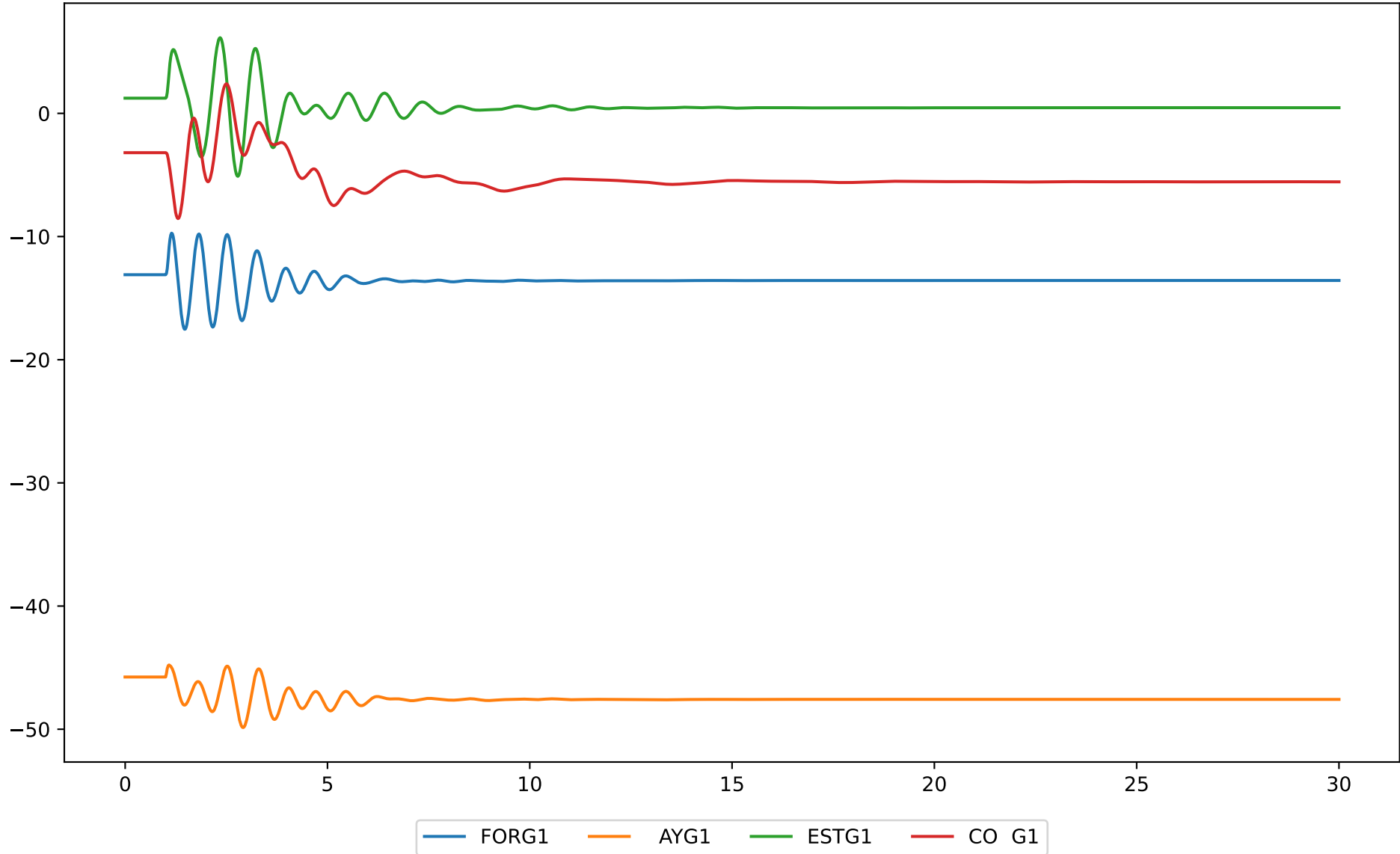
# Voltajes 230kV - Panama



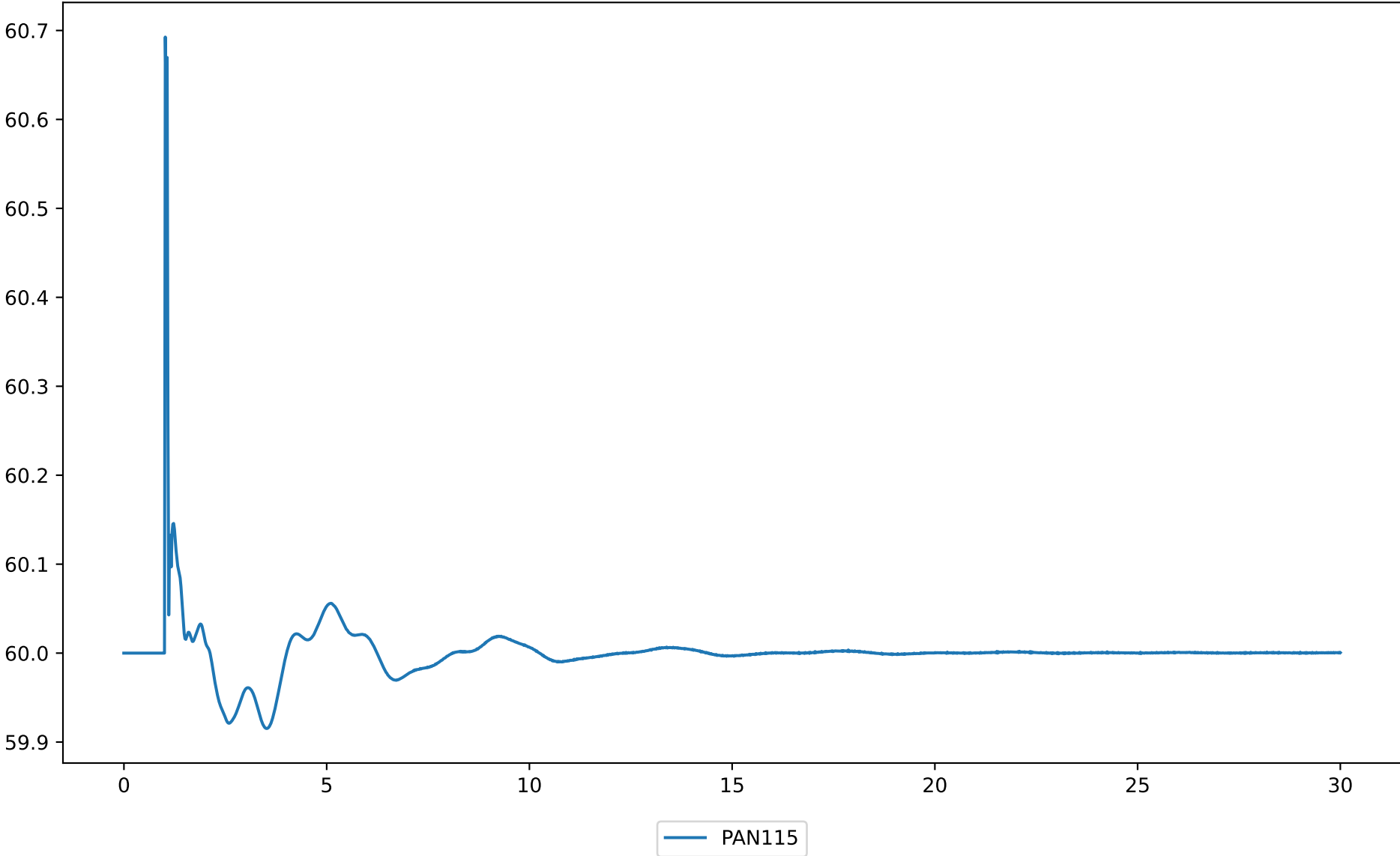
### Voltajes 115kV - Panama



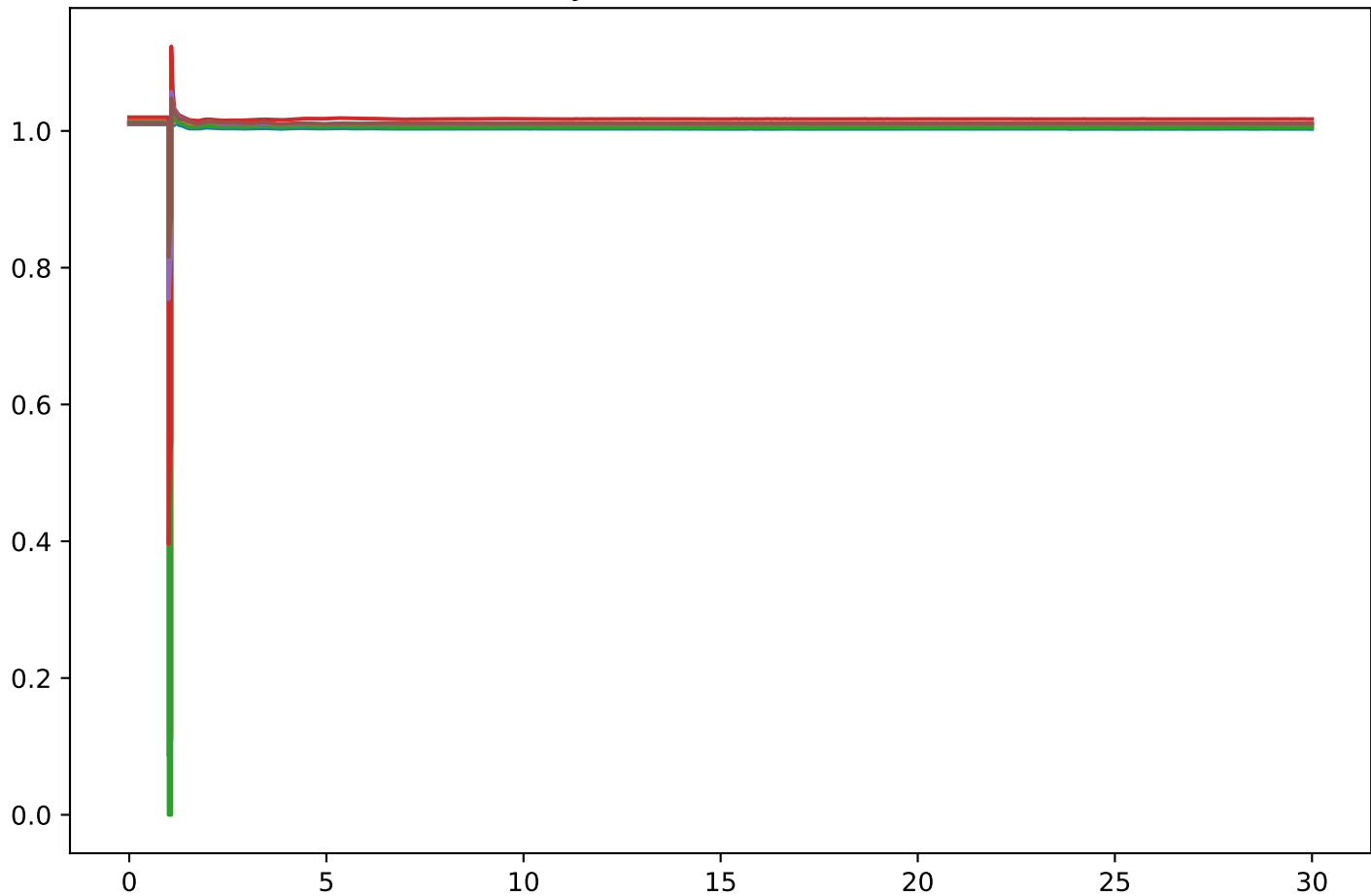
### Angulos de Rotacion de Maquinas - Panama



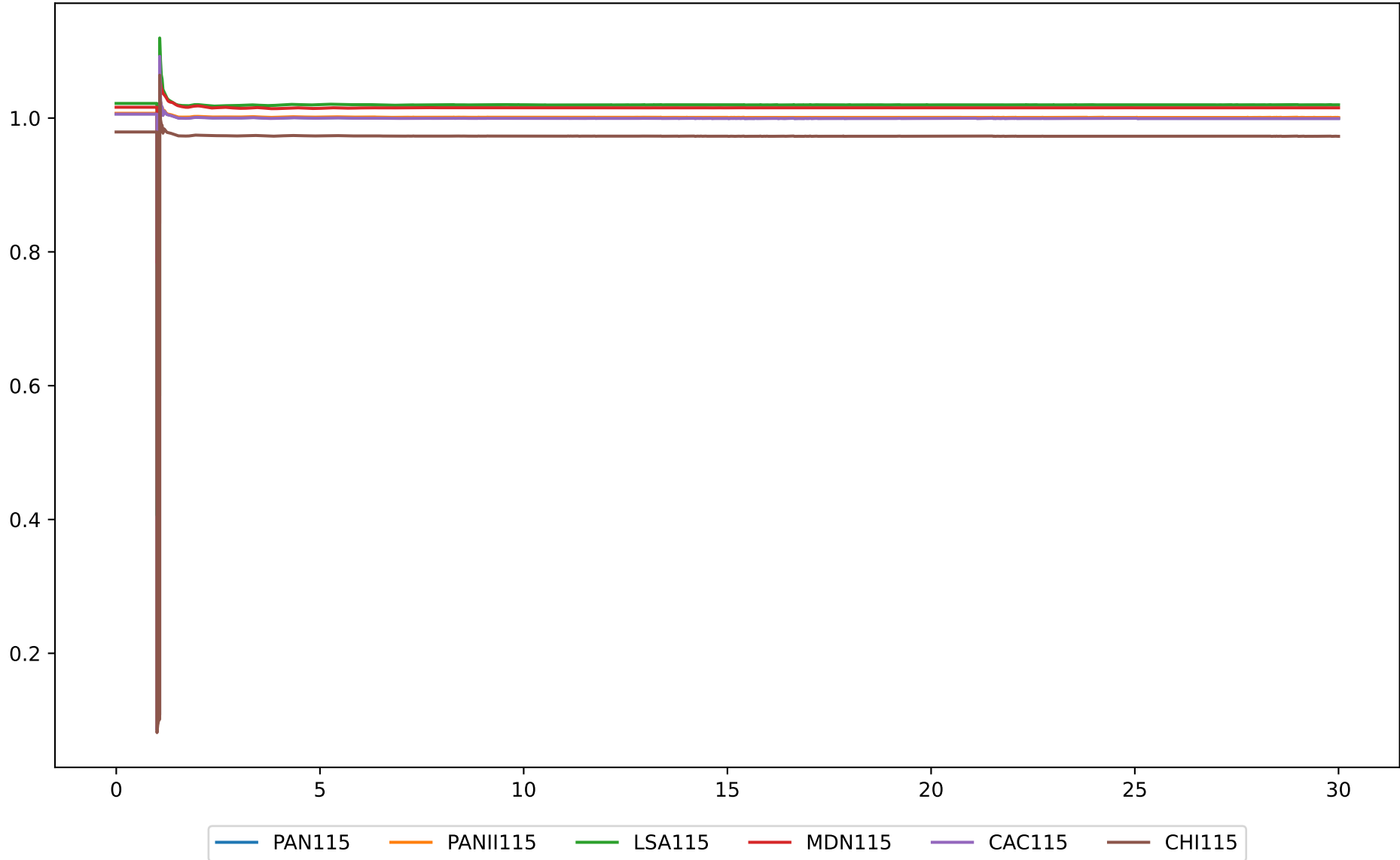
### Frecuencia (Hz)



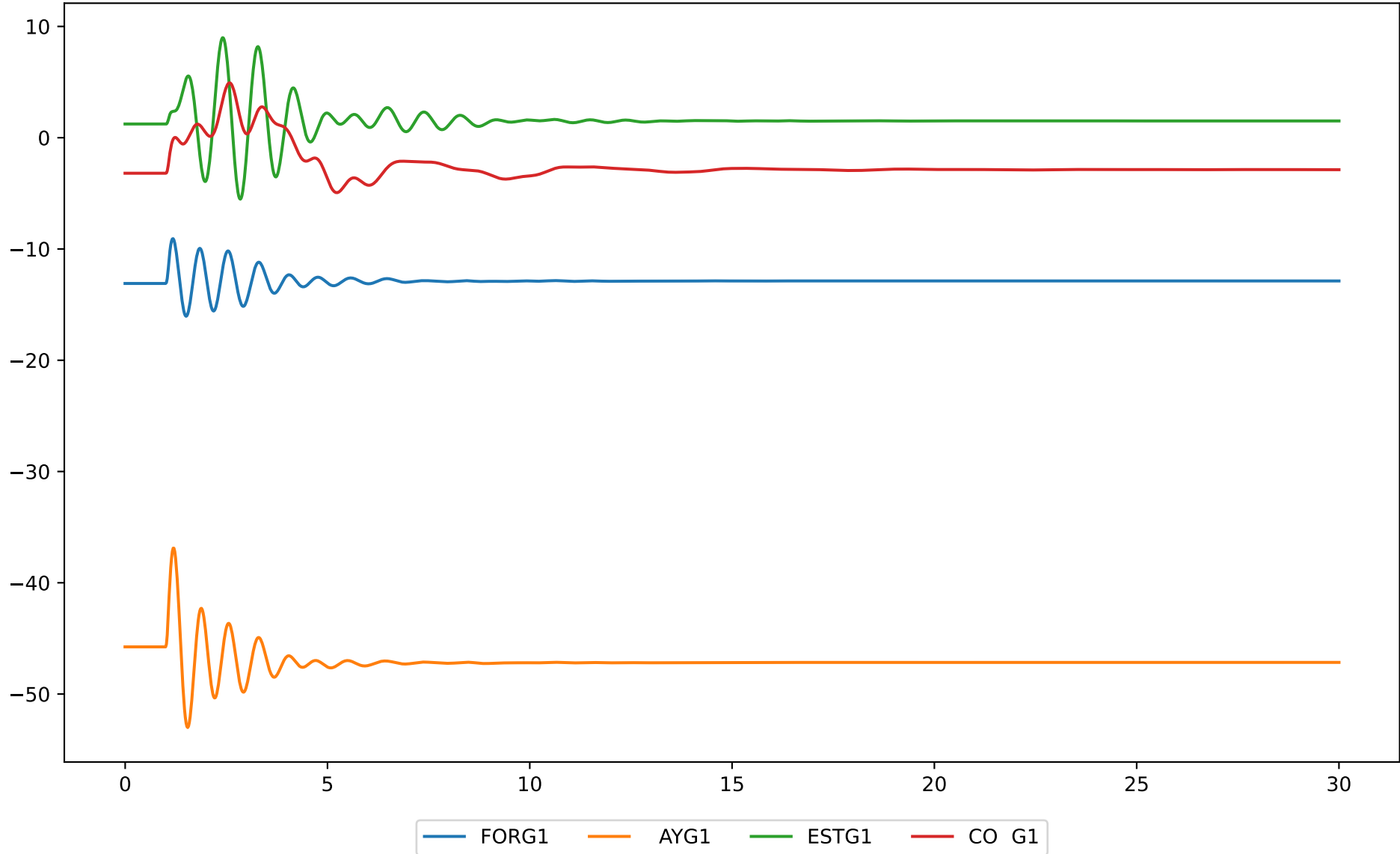
# Voltajes 230kV - Panama



### Voltajes 115kV - Panama



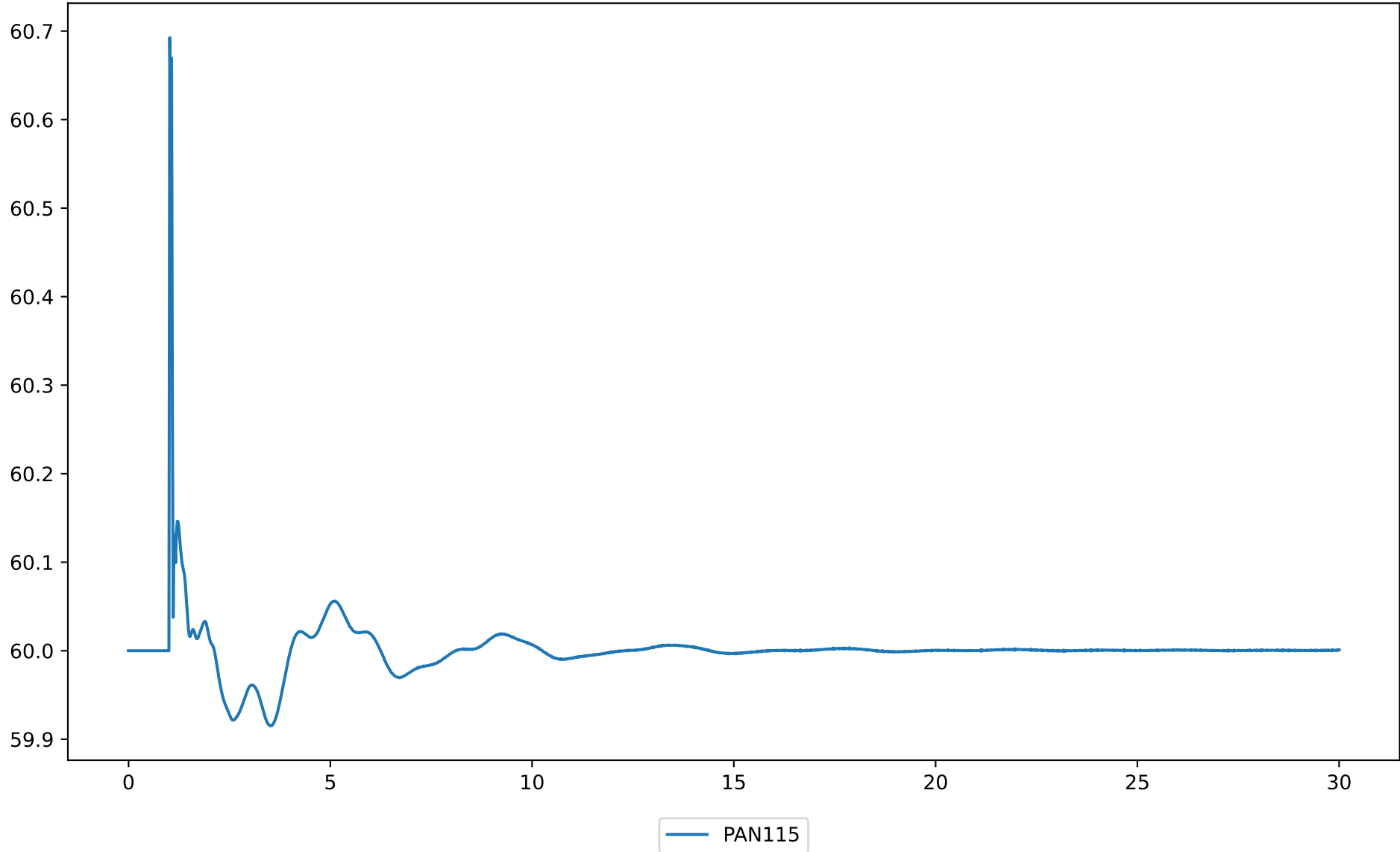
### Angulos de Rotacion de Maquinas - Panama



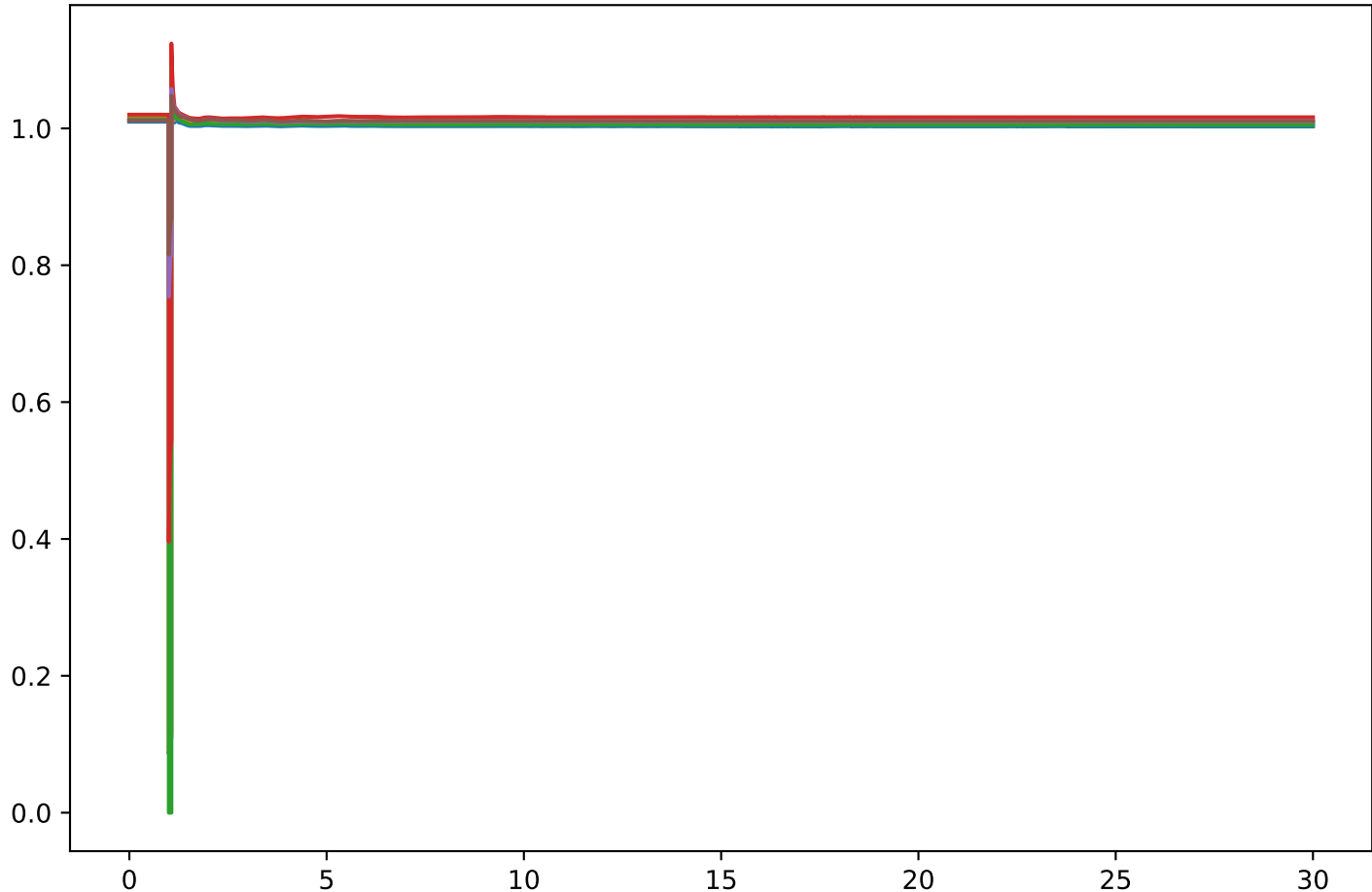


Caso: 523-4-2026CA\_ModMax\_Lluv - Contingencia: 6005-6008-50-C5\_CHO-LSA

## Frecuencia (Hz)

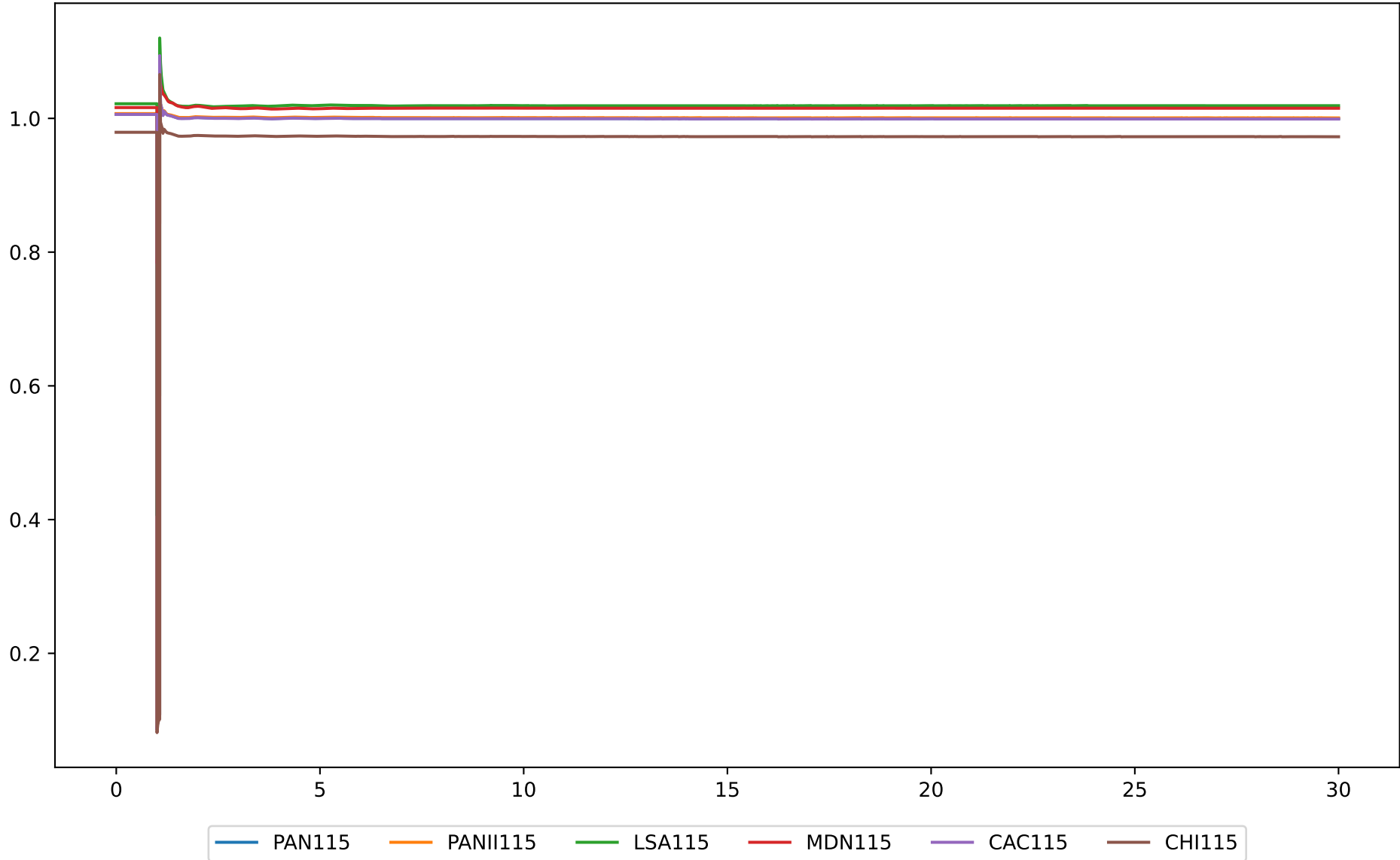


# Voltajes 230kV - Panama



PAN230    PANII230    CHO230    LSA230    MDN230    PRO230

### Voltajes 115kV - Panama



### Angulos de Rotacion de Maquinas - Panama

