

## 基礎データ「異なる周波数センサーとゲイン毎の検出データ」

一般社団法人弾性波診断技術協会

### (概要)

超音波根入れ長測定技術の精度向上や他分野での応用などを目的に、基礎データとして「WGNS01・トルク管理による超音波送受信量の定量化」を用いて、EITAC試験フィールド（富士市、施工技術総合研究所内）で、3種類の周波数センサーを使用し、周波数センサー毎に出力、ゲイン毎の測定を行った。

なお、「NST-2/LT」を使用し、測定者は「超音波根入れ長測定上級技術者」である。

### (対象物)

<b>GP-1</b>	: Gp-Bp-2E	全長2,300mm (地上高800mm、根入れ長1,500mm)
<b>GP-5</b>	: Gp-Bp-2E	全長1,500mm (地上高800mm、根入れ長700mm)
<b>GR-1</b>	: Gr-B-2E	全長2,200mm (地上高700mm、根入れ長1,500mm)
<b>GR-5</b>	: Gr-B-2E	全長1,200mm (地上高700mm、根入れ長500mm)
<b>T-1</b>	: 転落防止柵	全長2,300mm (地上高1,100mm、根入れ長1,200mm)
<b>T-4</b>	: 転落防止柵	全長1,700mm (地上高1,100mm、根入れ長600mm)

### (測定方法)

NST-2/LTを使用し、次のとおり変動項目のみを変更可とする。

固定項目 変動項目

探査長	加算数	音速		ゲイン	X軸	Y軸	二乗有無	STEP
2,500	10	キャリブ値による		0~60の11段階	1	7	無し	10
サンプリング周波数	サンプリングデータ数		表示最大電圧		ハードフィルタ(HPF)		コイル通電時間	
5MHz	15,000		10		HPF(0.1Mhz-)		64	
センサ充電時間	コンデンサ	パルス形式	アッテネーター		バッファ数		プローブディレイ	
16	2200pF	インパルス	減衰なし		10		センサ成績書による	
センサ位置	周波数フィルタ		300KHzセンサー		500KHzセンサー		800KHzセンサー	
250			200-400		400-600		700-900	

(測定位置) 3種類のセンサーとも測定位置は変更しないものとする。

(ファイル名) 例, **GP-1-500K0024-001**

**GP-1**: 測定対象物 (GP-1、GP-5、GR-1、GR-5、T-1、T-4)

**500K**: 500KHzセンサー (300KHz、500KHz、800KHzの3種)

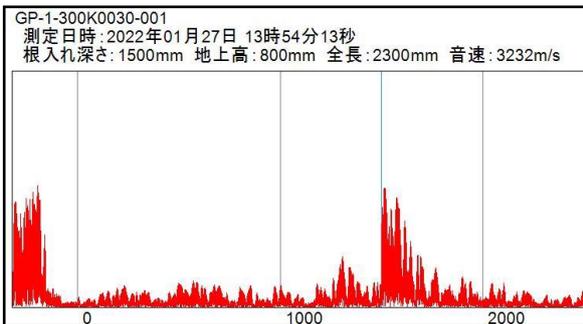
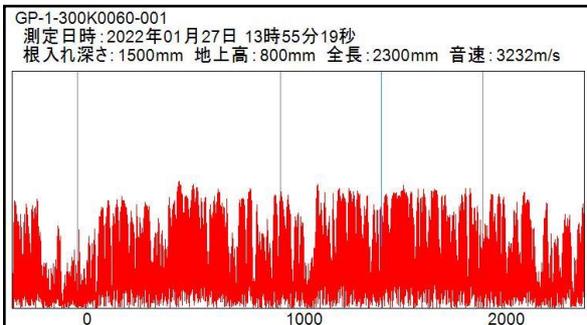
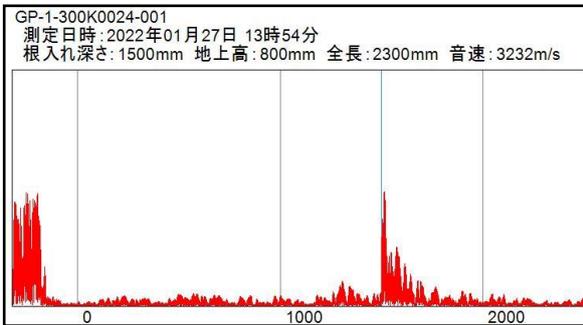
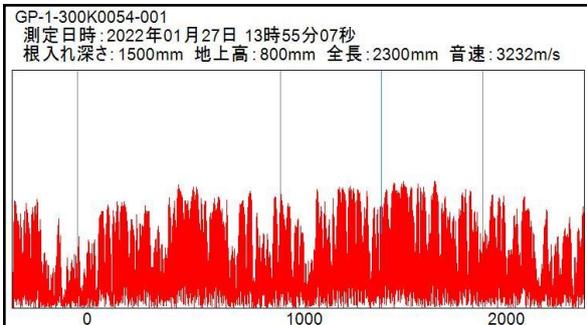
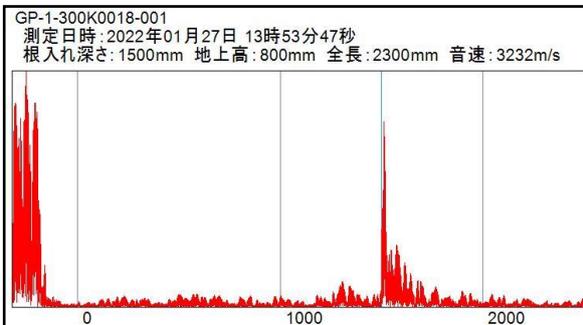
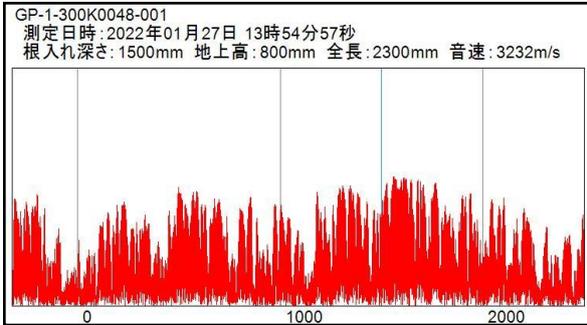
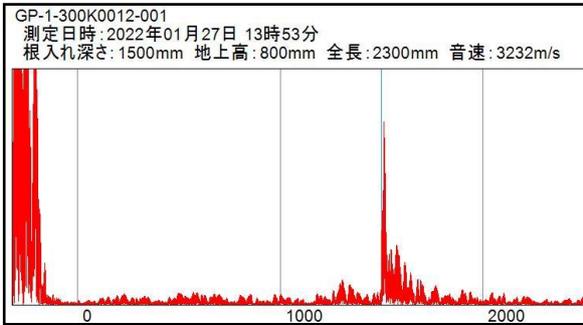
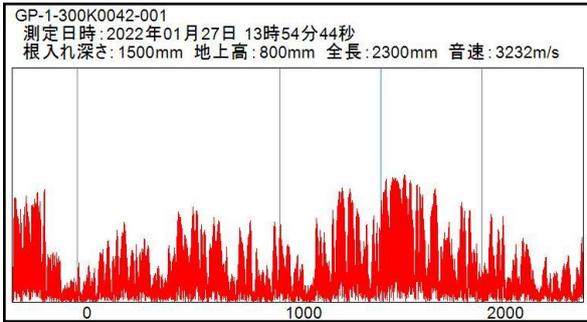
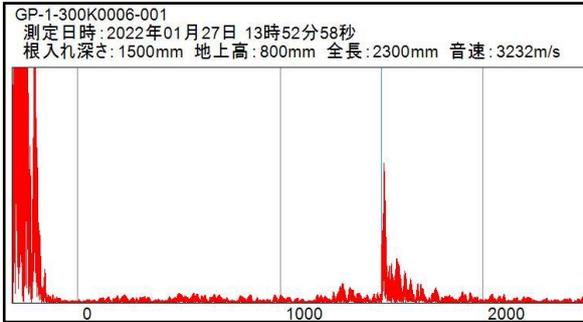
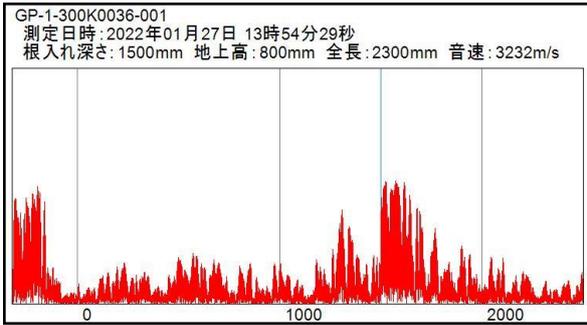
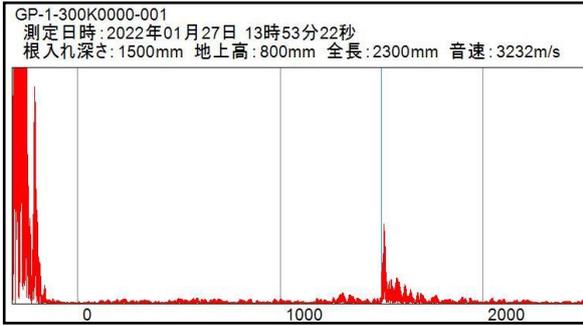
**0024**: ゲイン (0~60db)

**001**: 1回目の測定

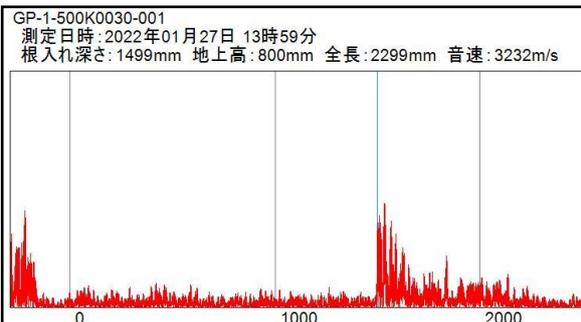
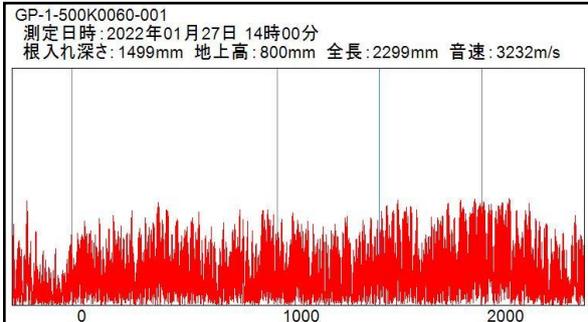
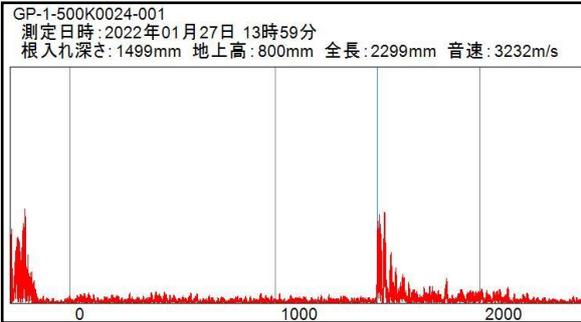
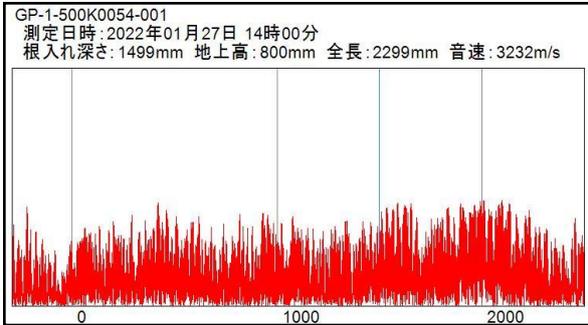
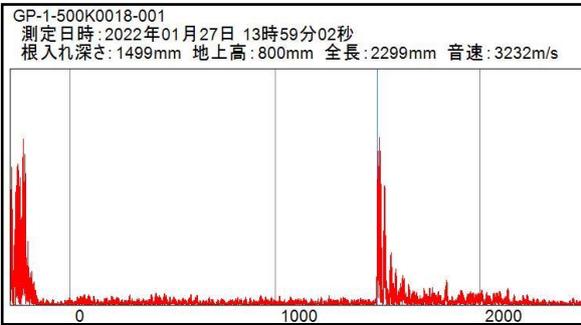
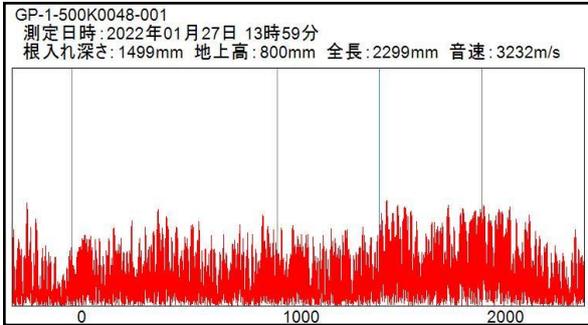
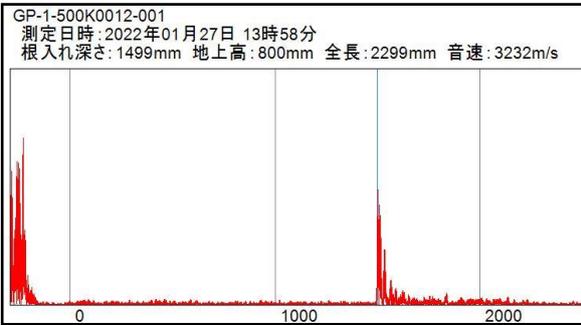
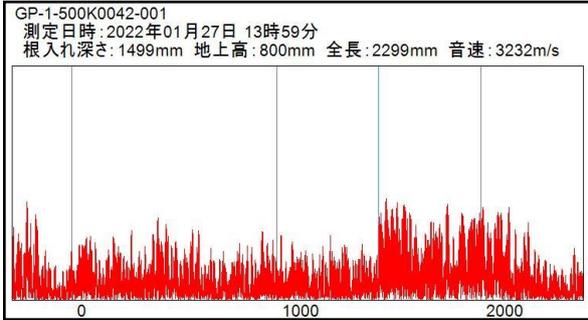
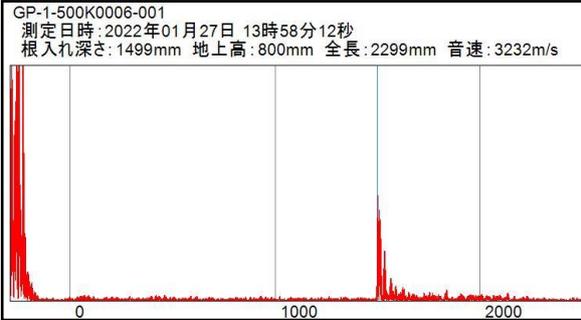
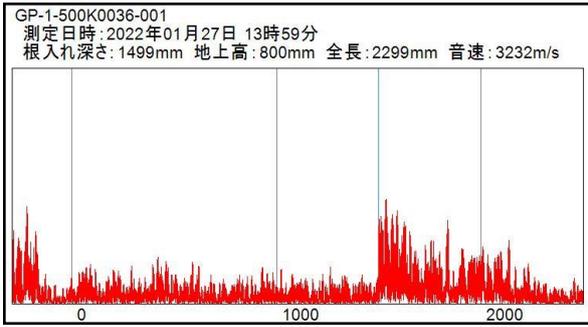
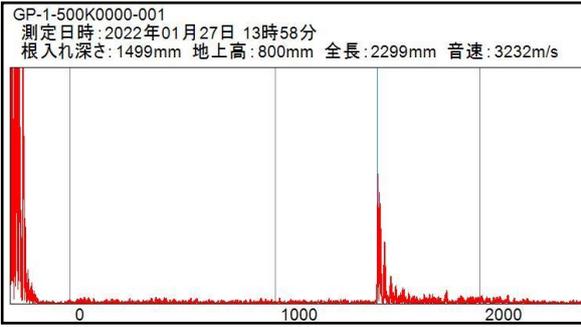
### (測定風景)



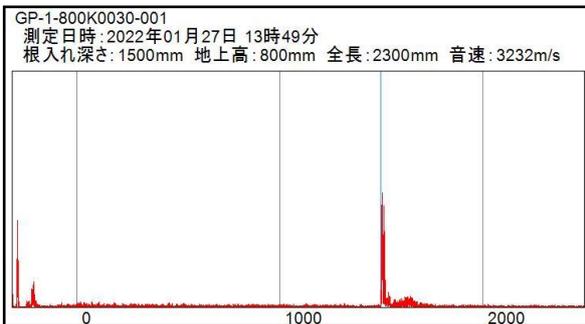
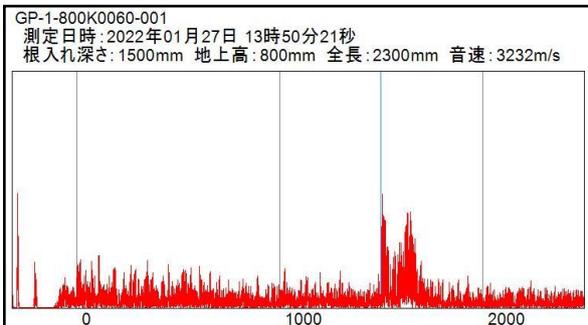
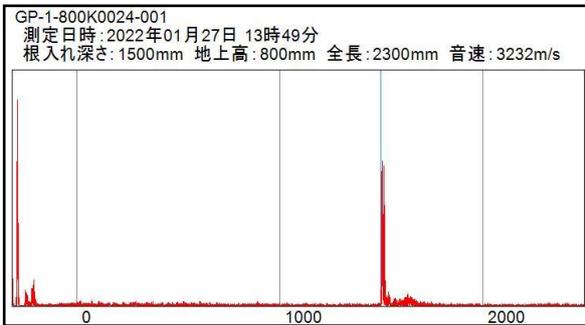
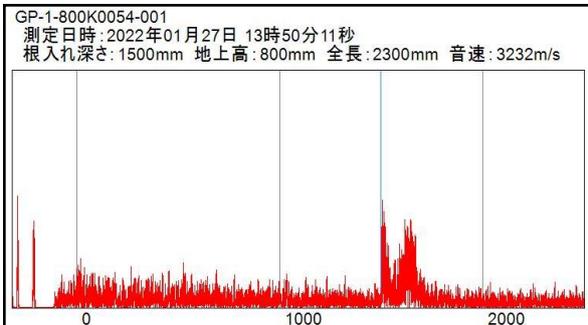
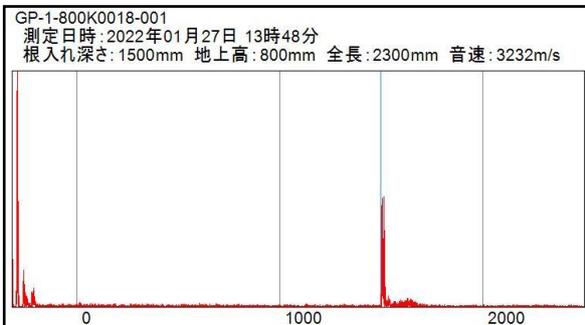
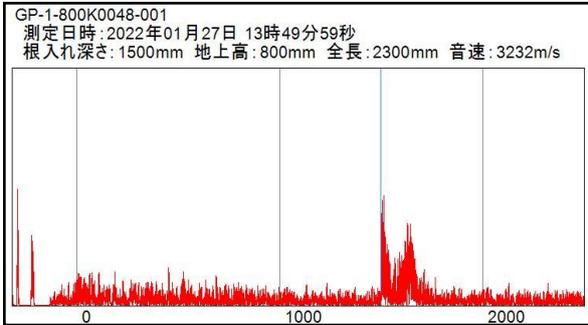
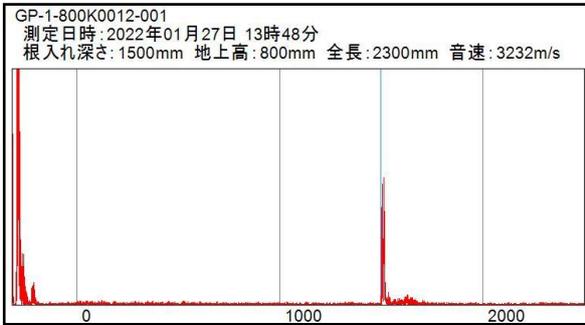
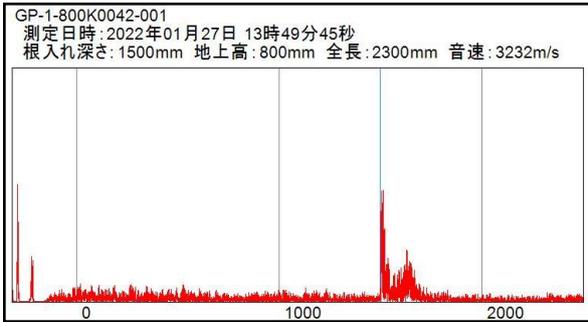
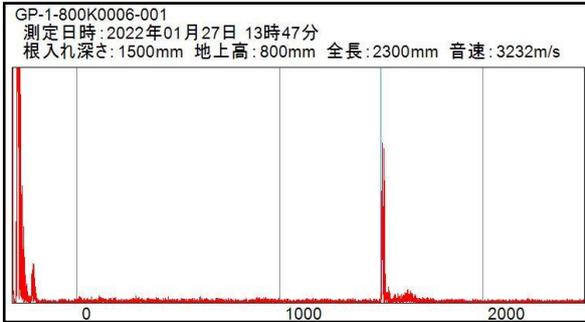
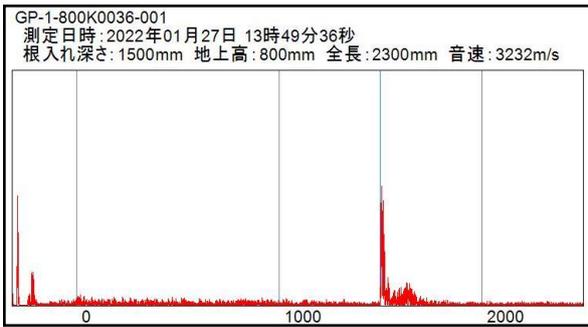
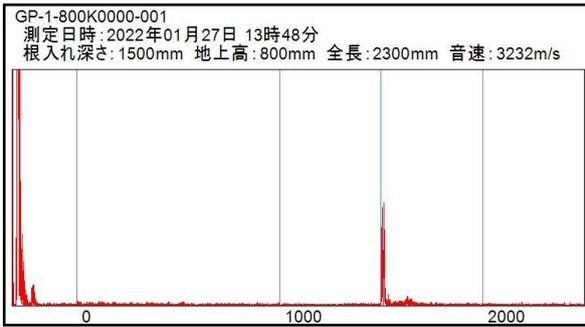
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(1/18)



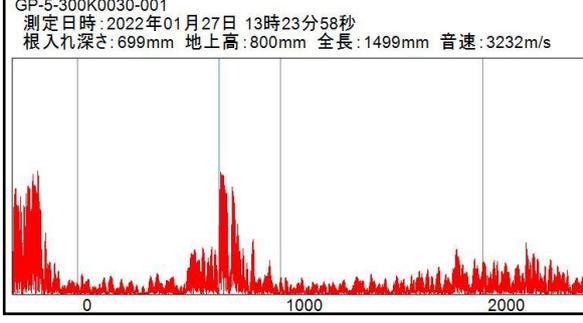
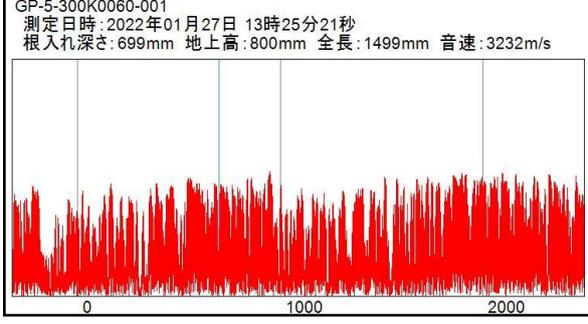
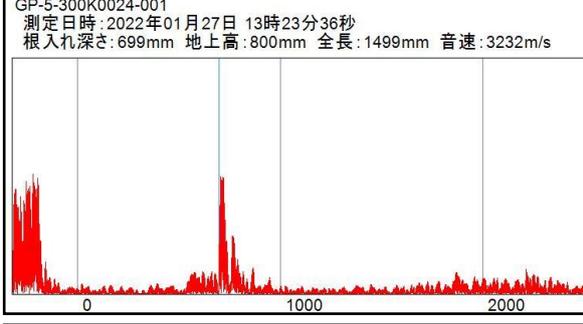
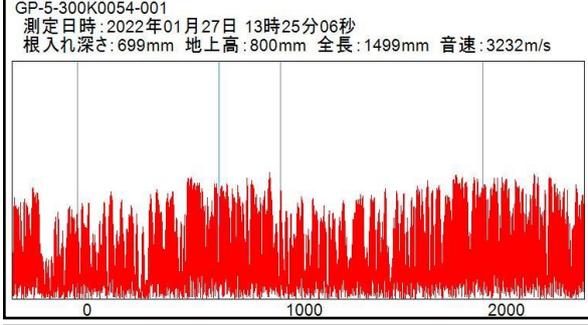
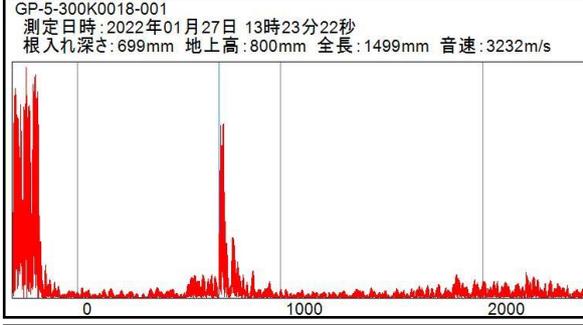
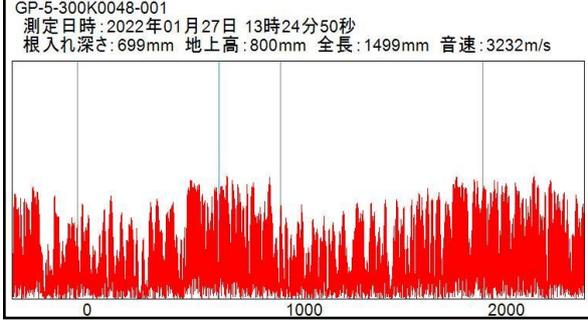
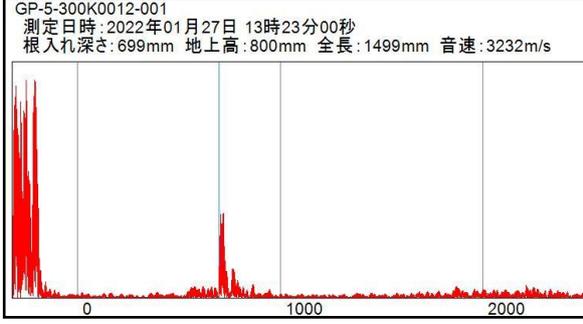
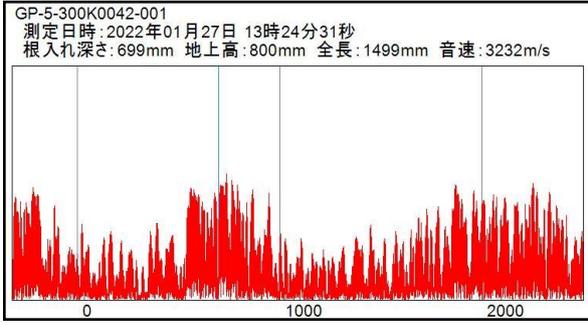
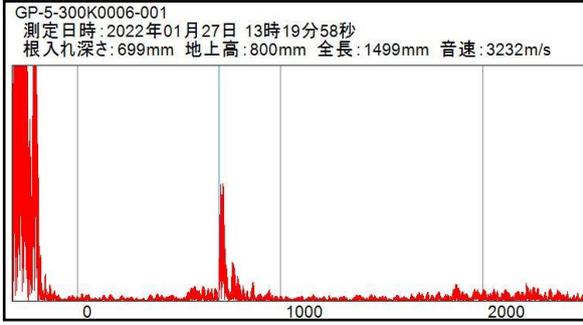
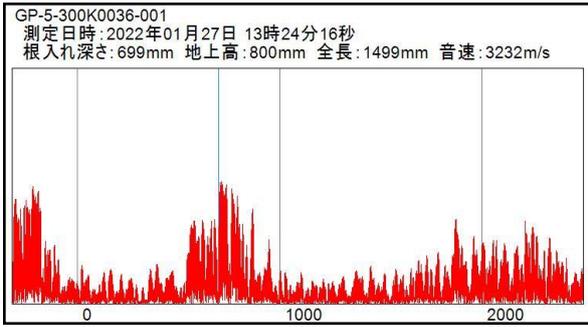
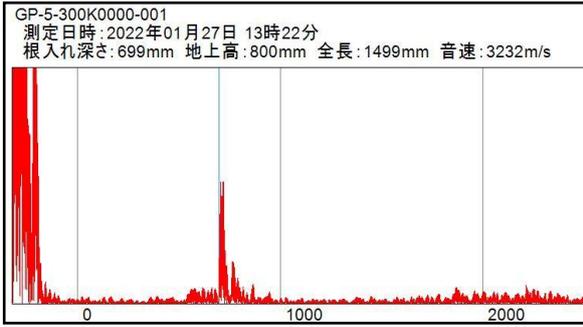
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(2/18)



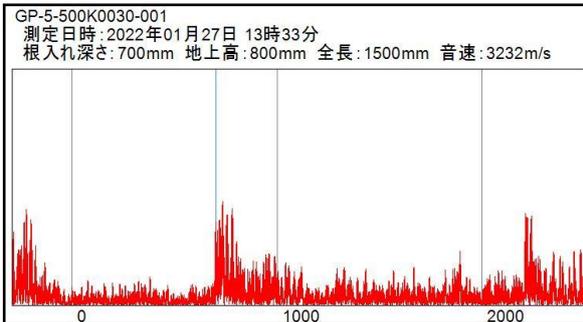
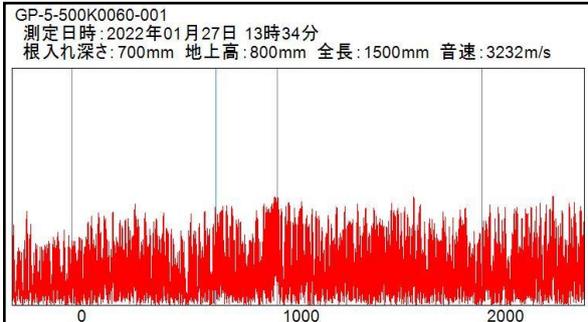
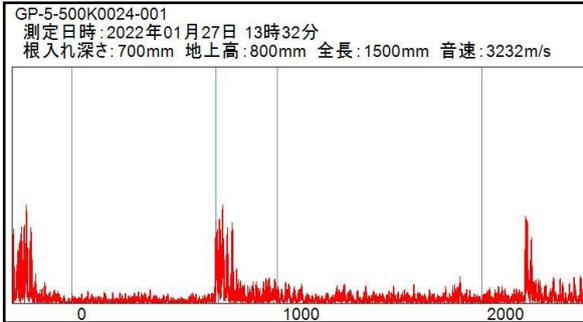
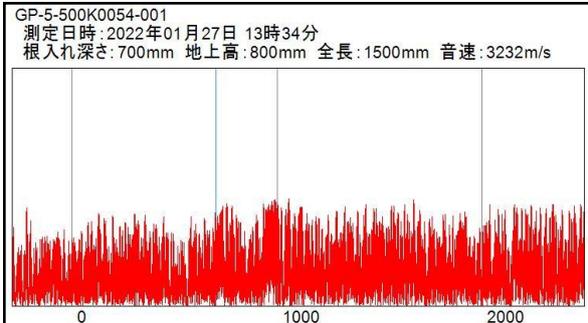
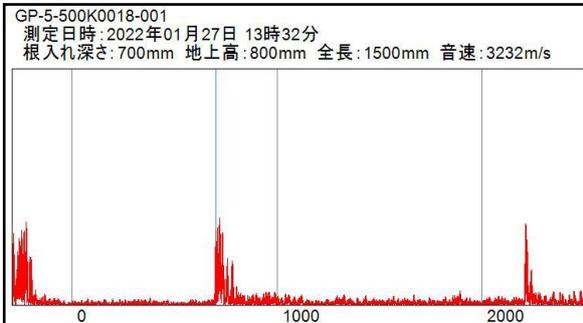
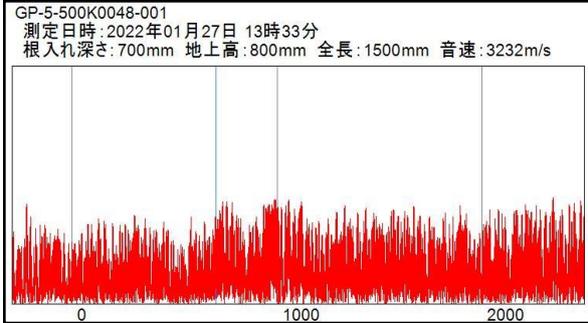
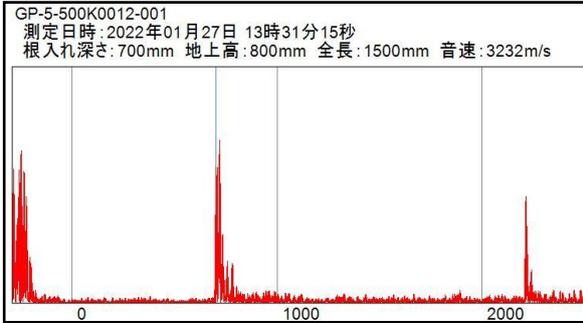
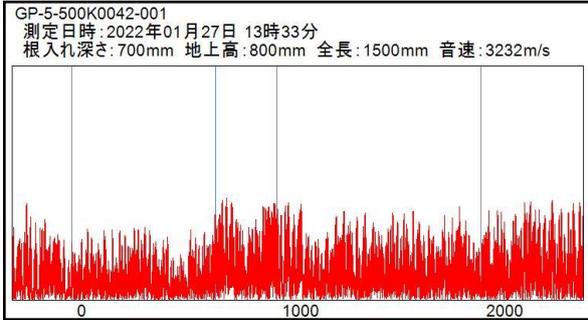
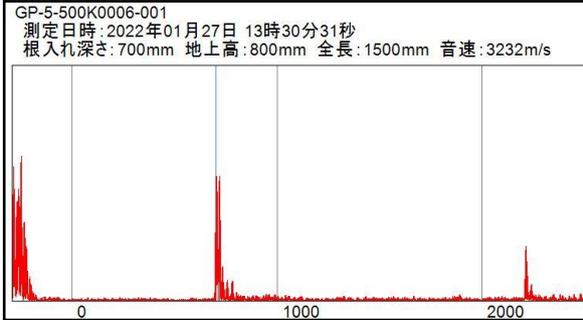
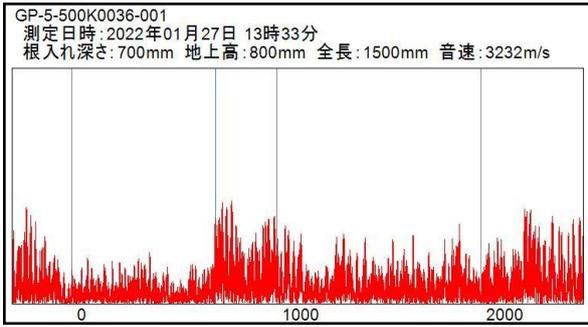
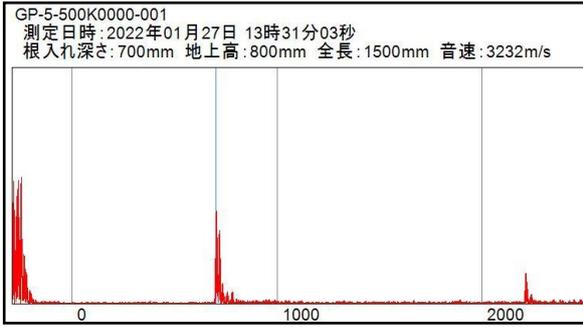
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(3/18)



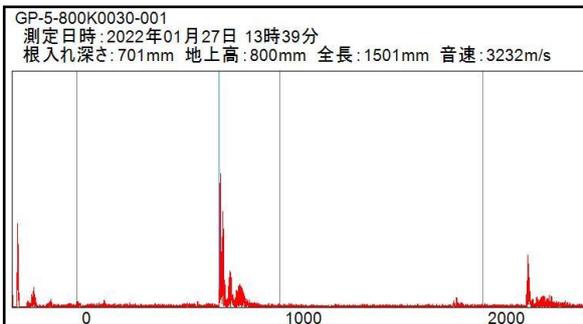
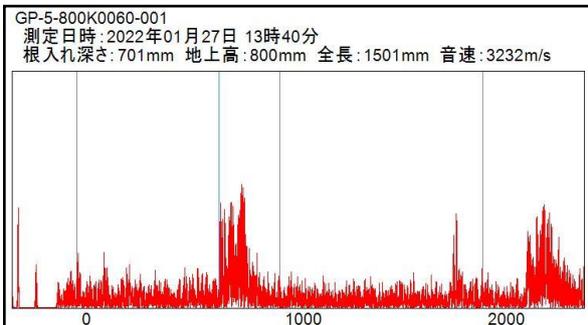
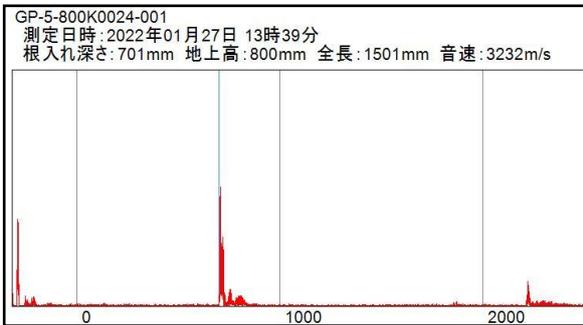
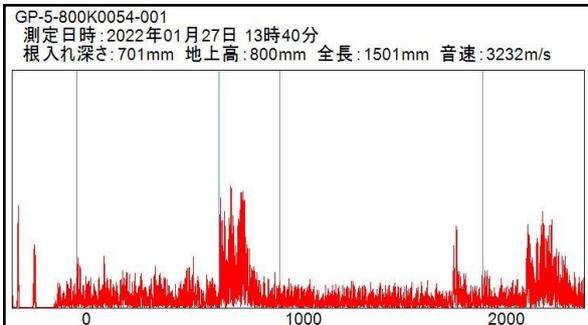
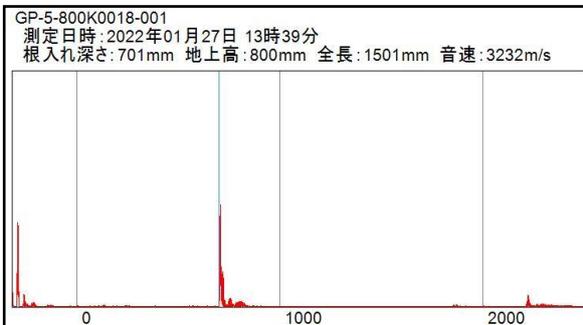
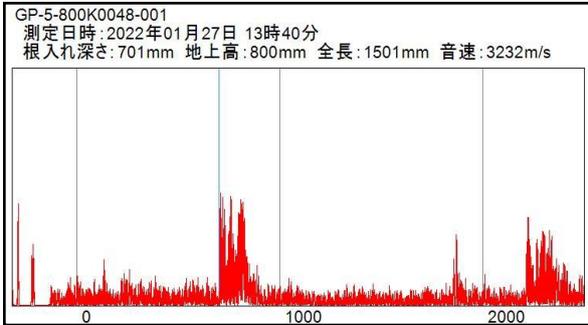
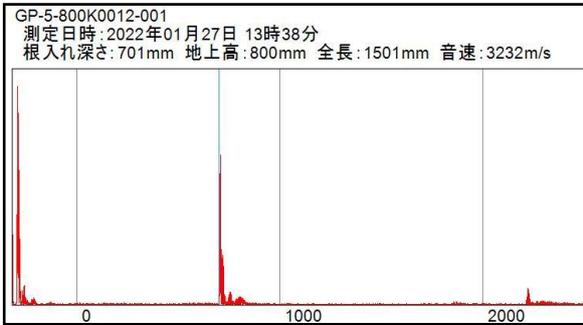
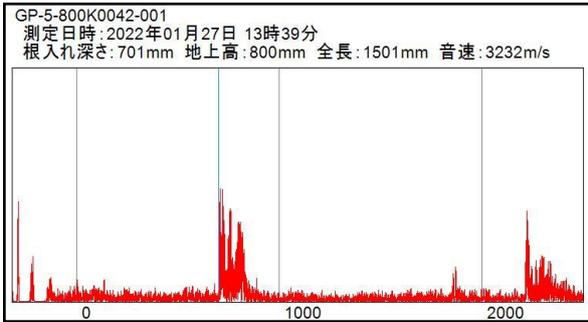
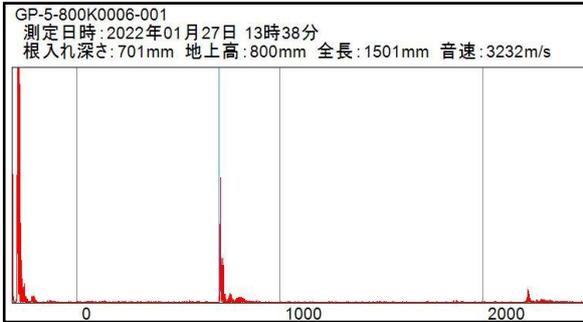
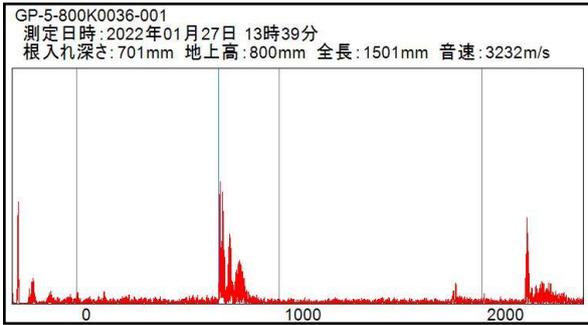
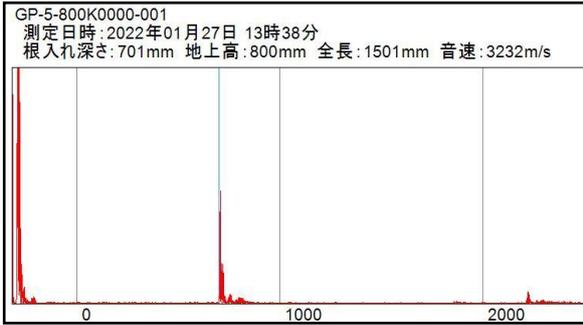
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(4/18)



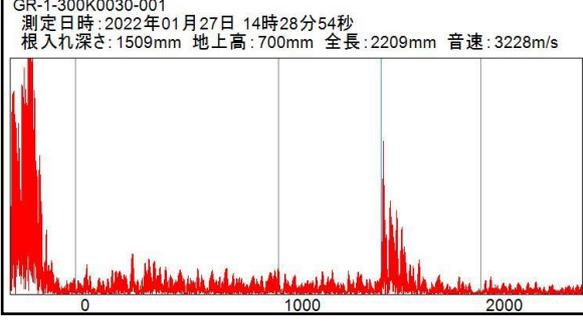
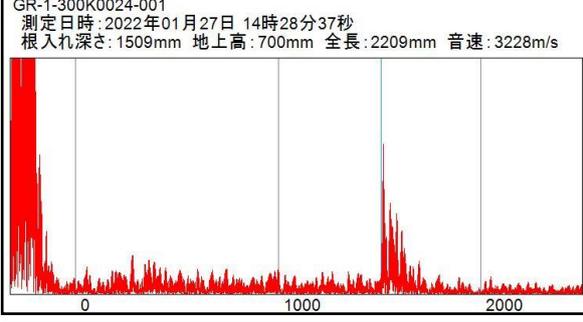
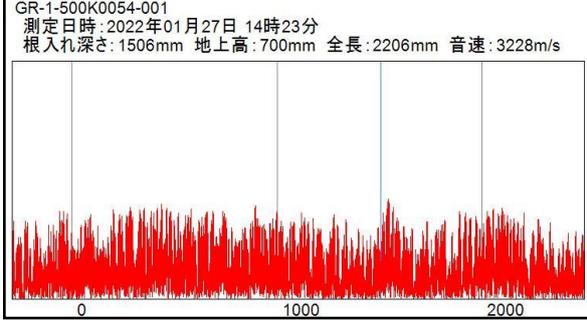
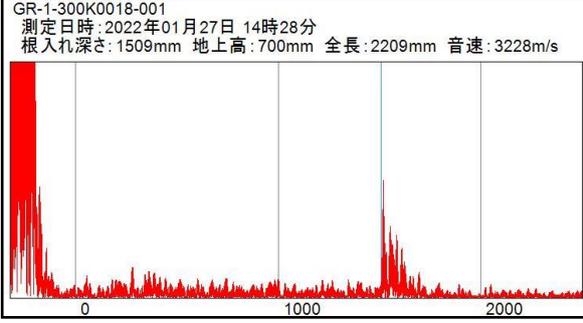
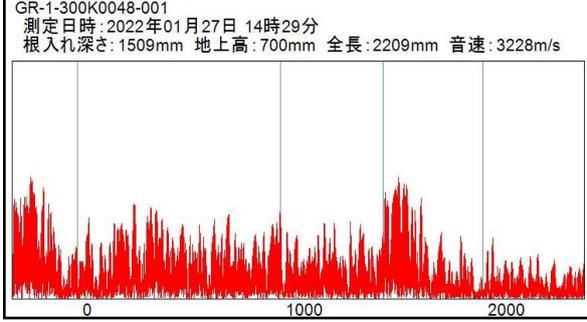
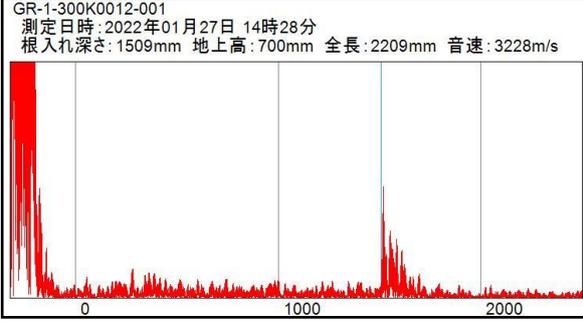
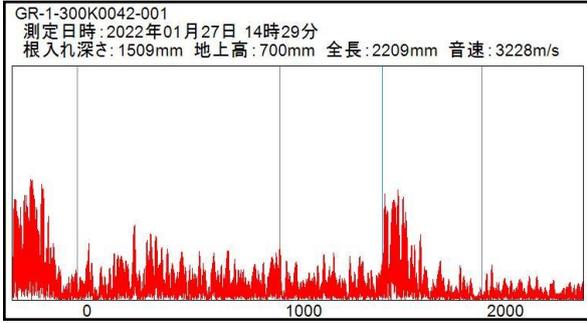
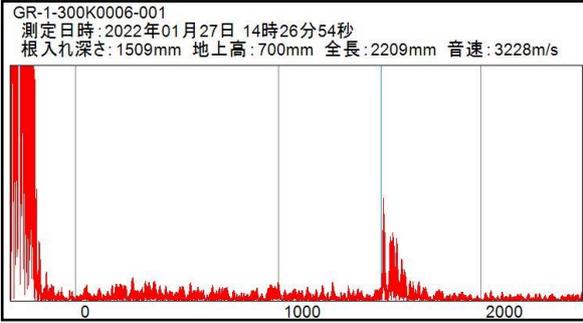
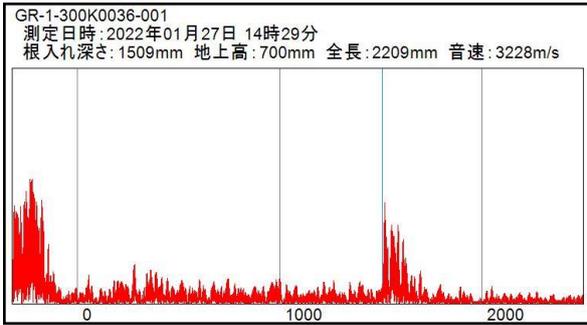
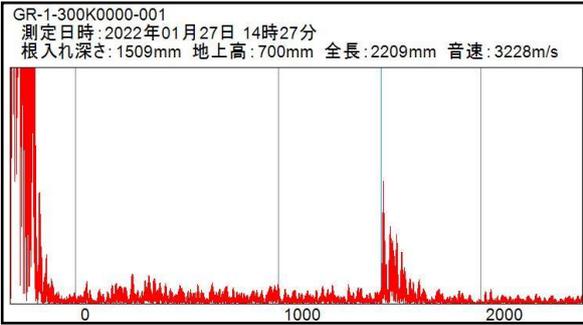
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(5/18)



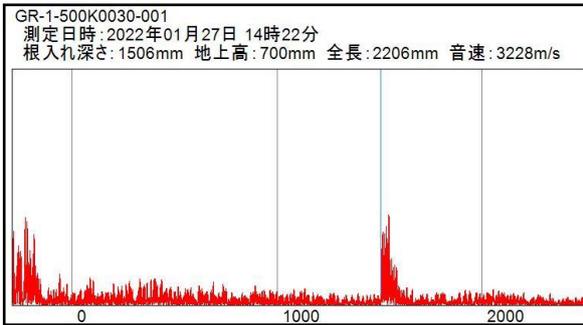
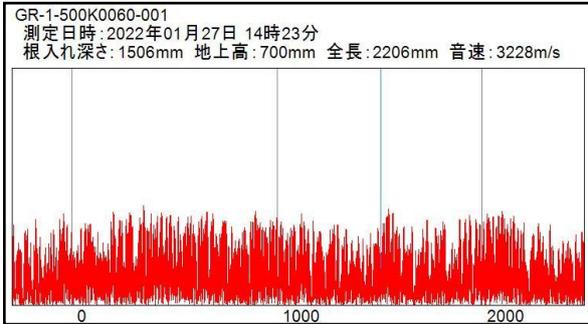
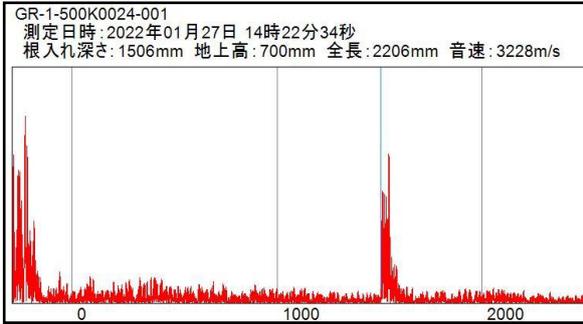
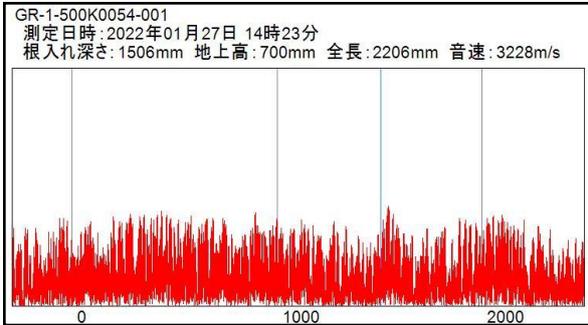
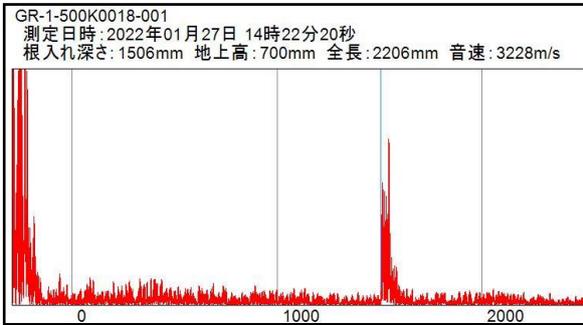
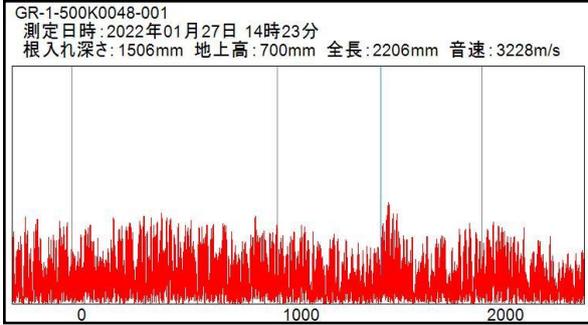
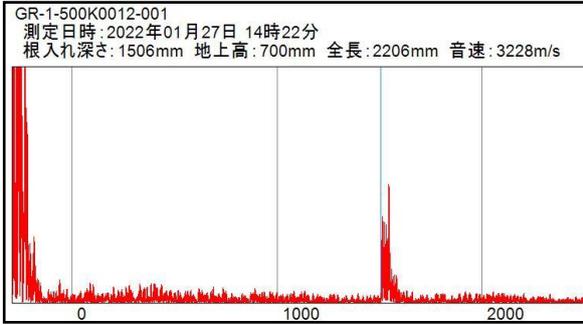
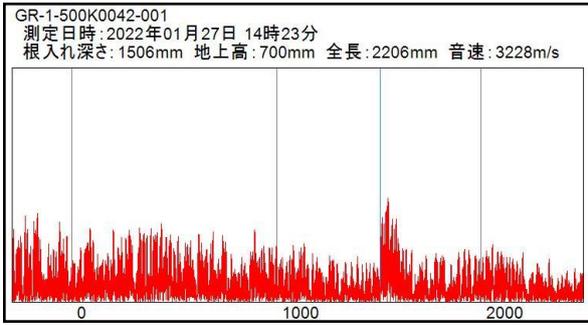
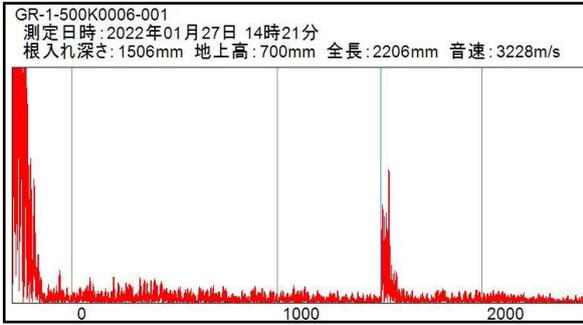
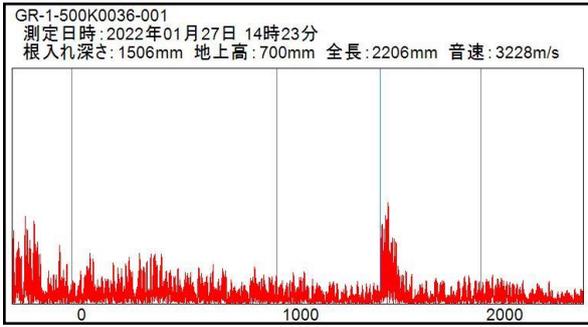
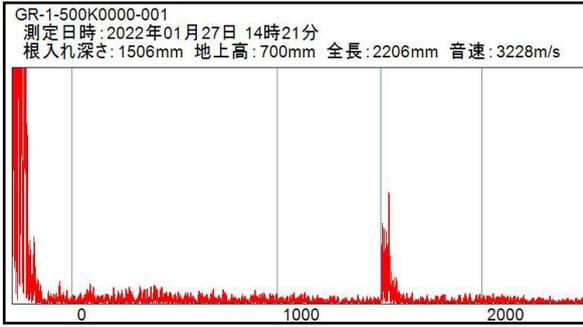
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(6/18)



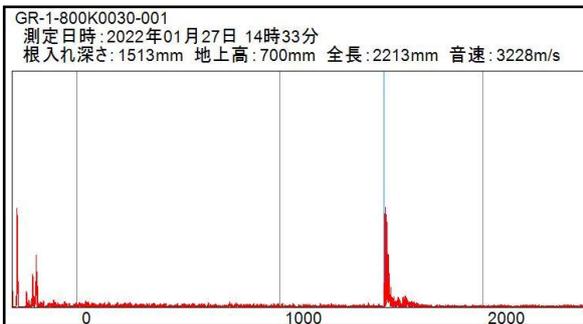
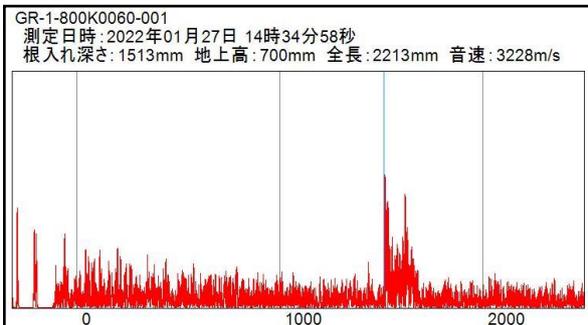
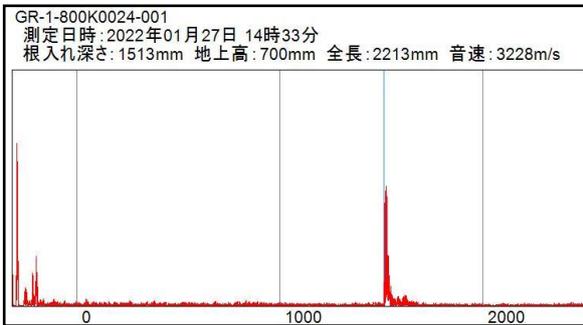
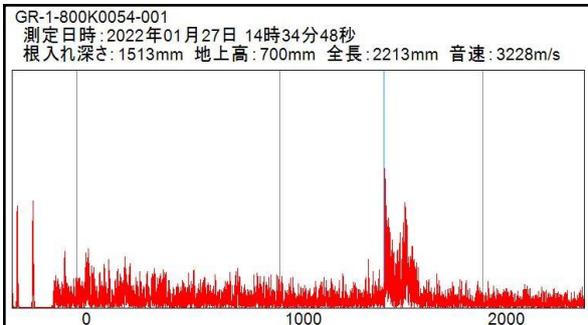
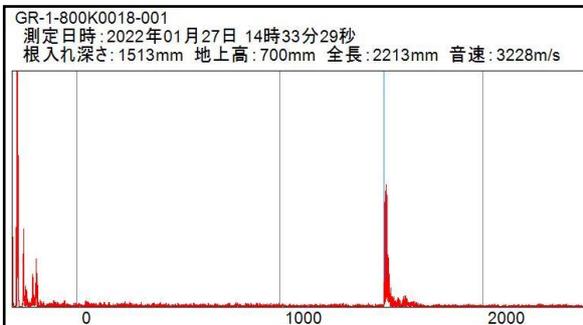
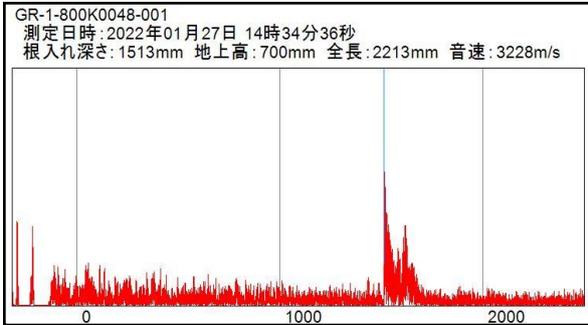
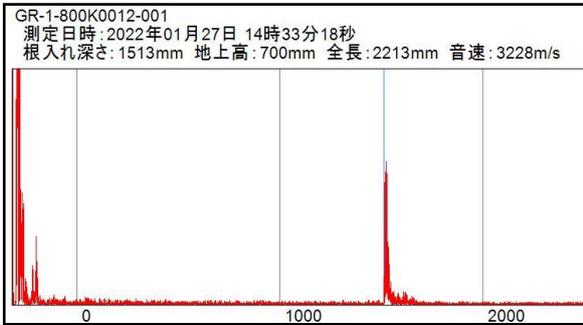
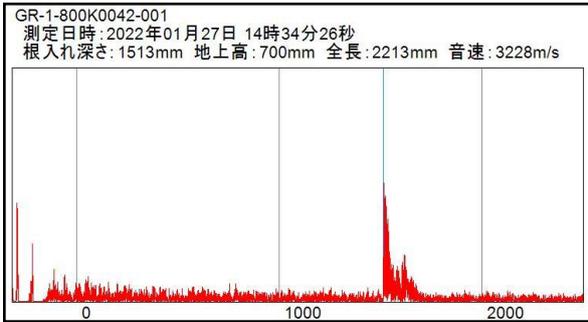
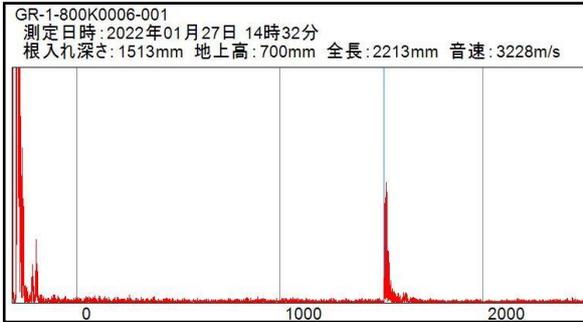
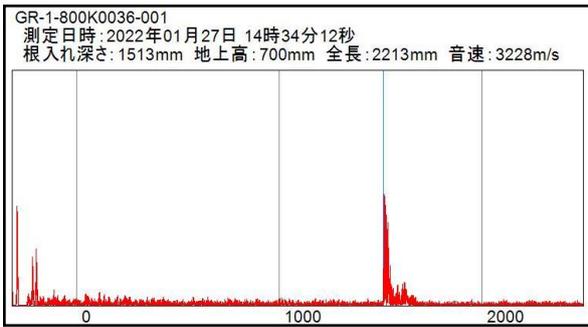
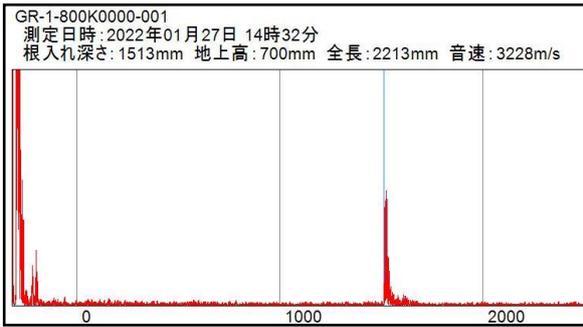
WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(7/18)



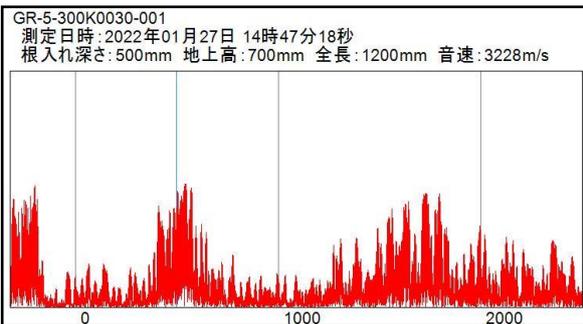
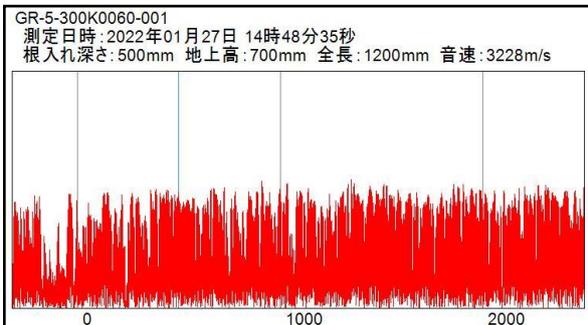
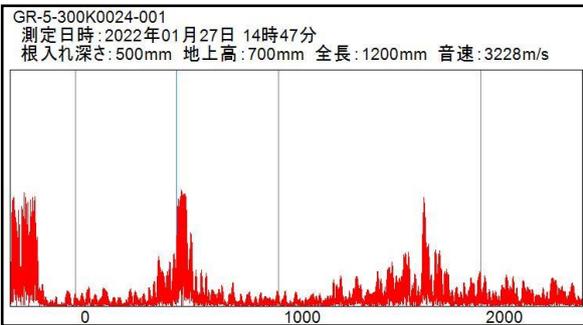
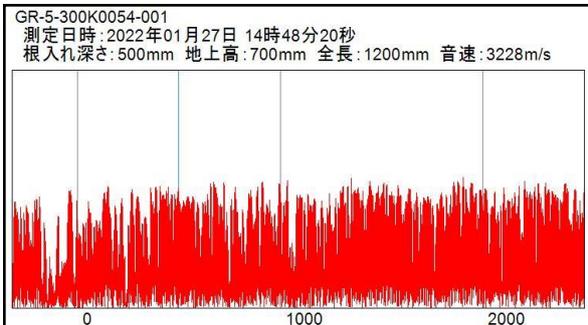
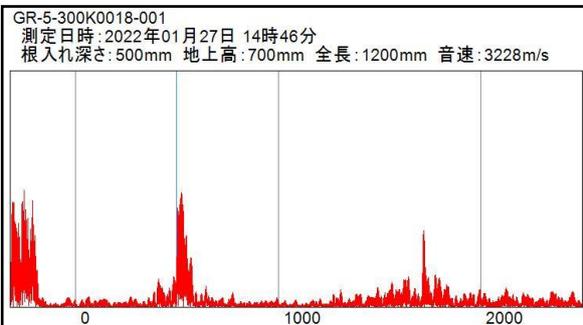
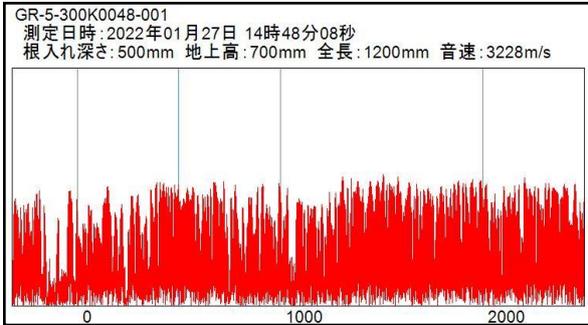
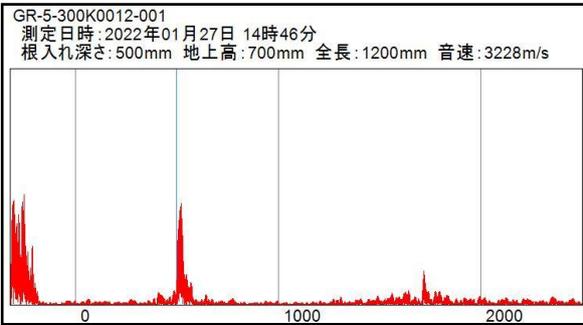
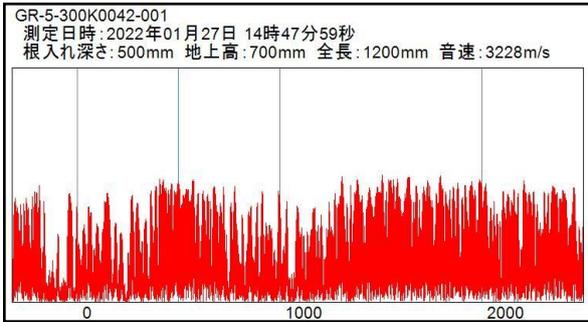
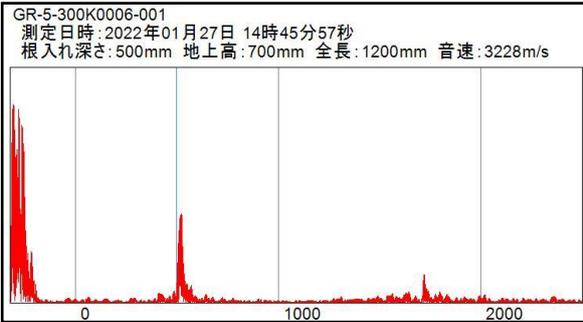
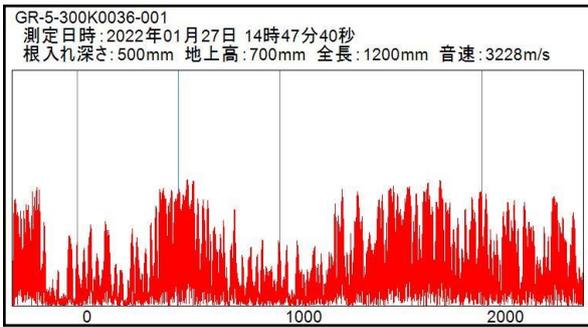
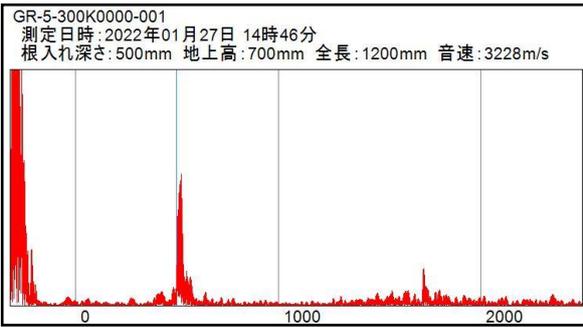
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(8/18)



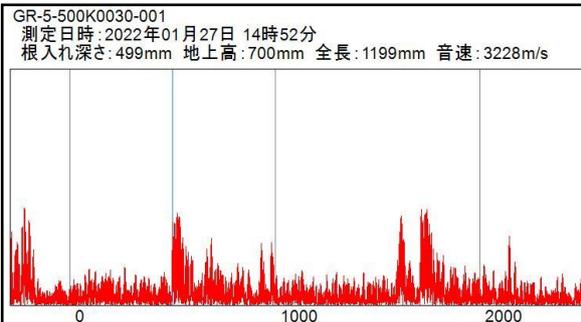
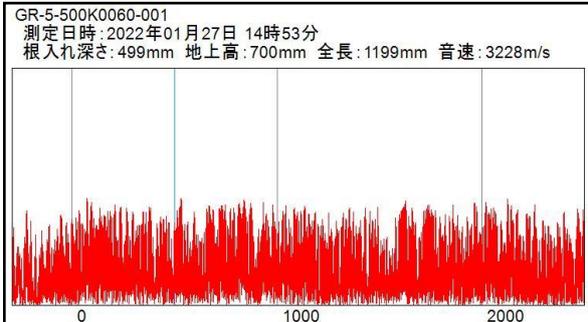
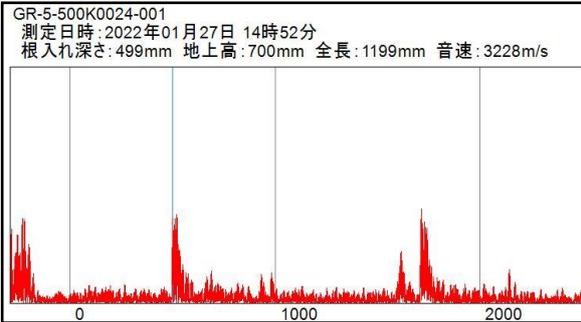
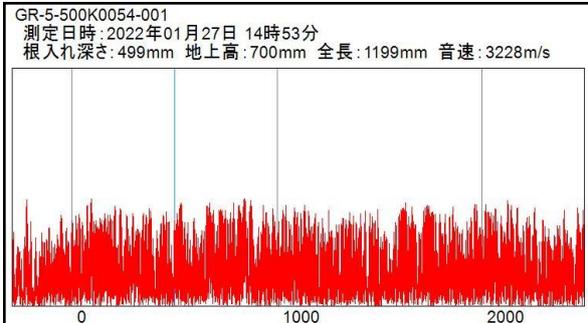
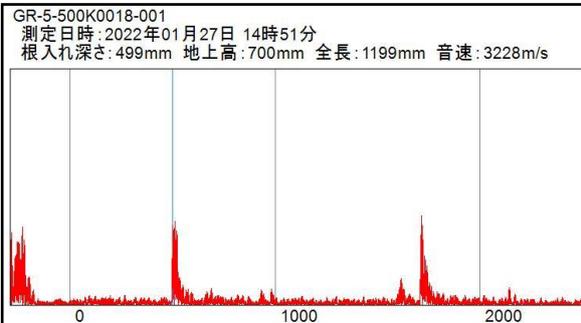
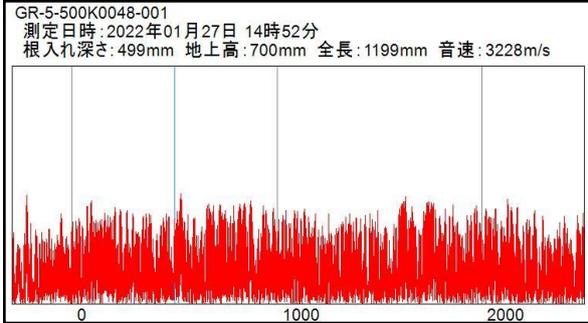
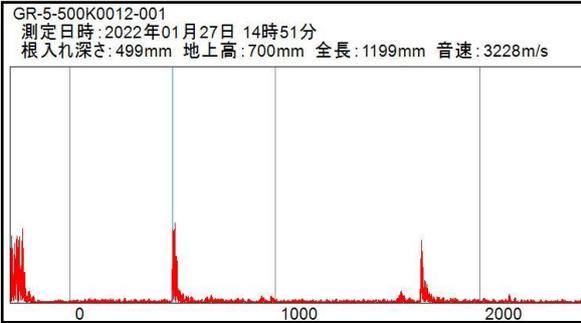
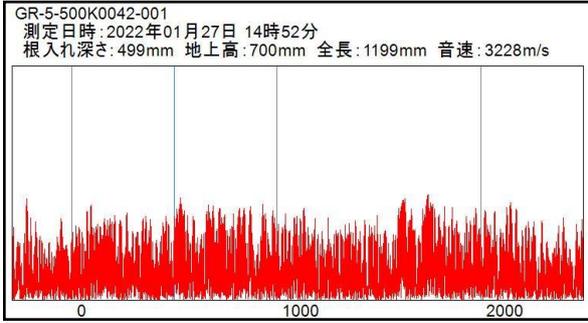
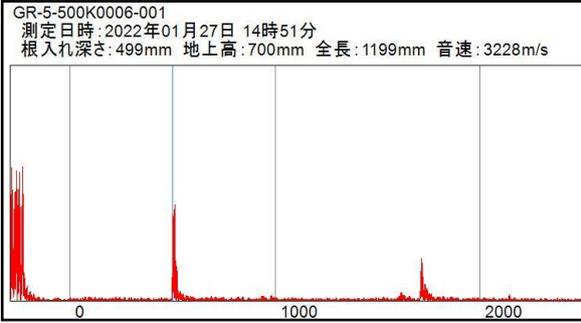
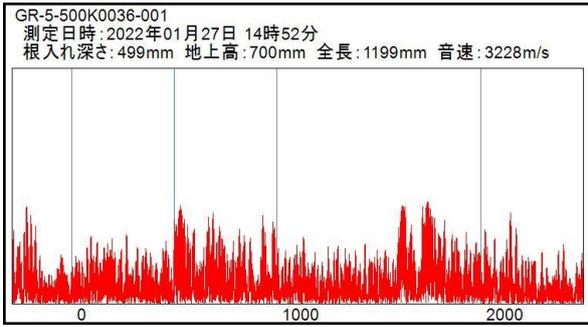
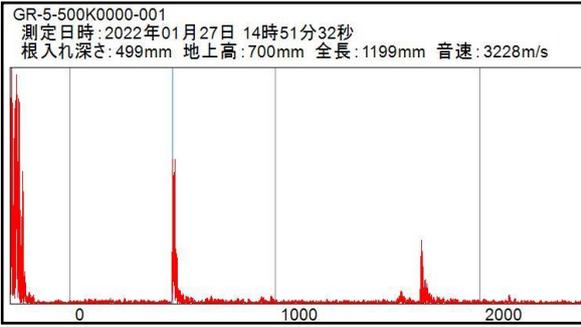
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(9/18)



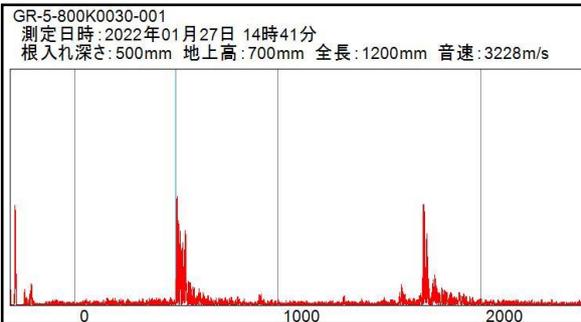
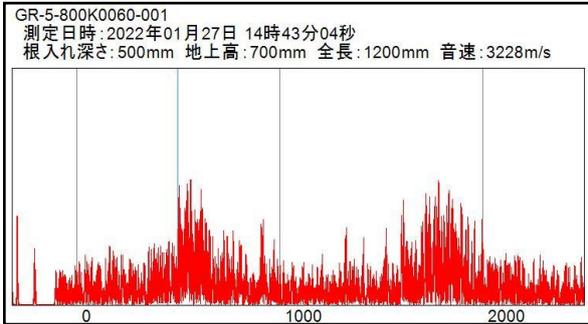
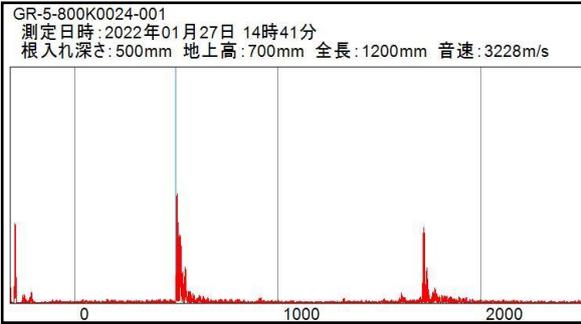
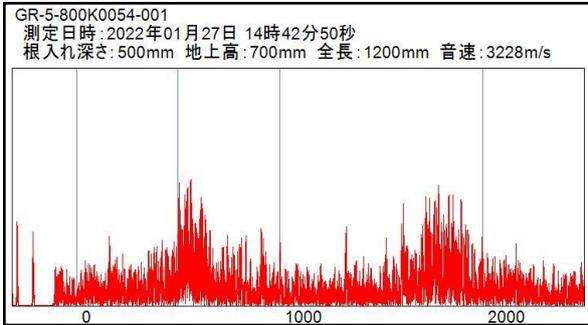
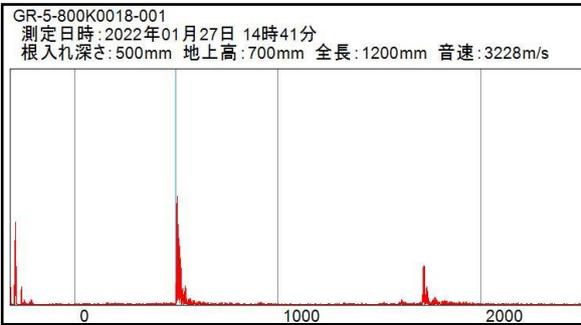
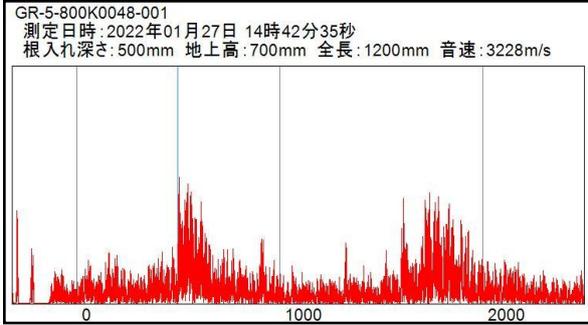
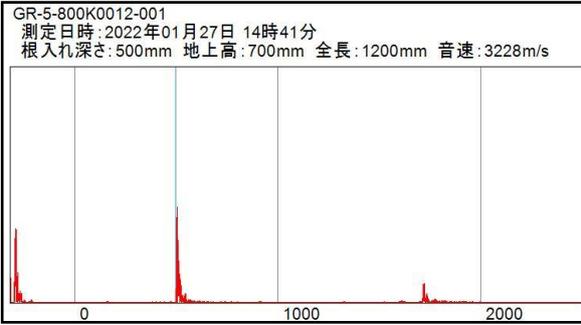
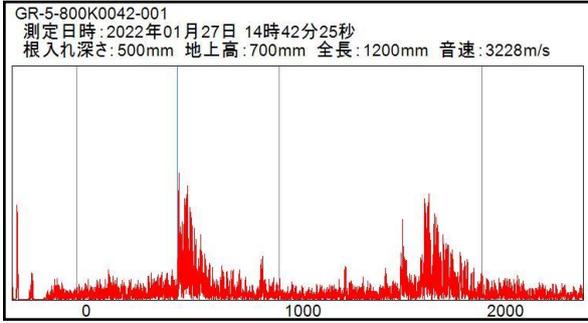
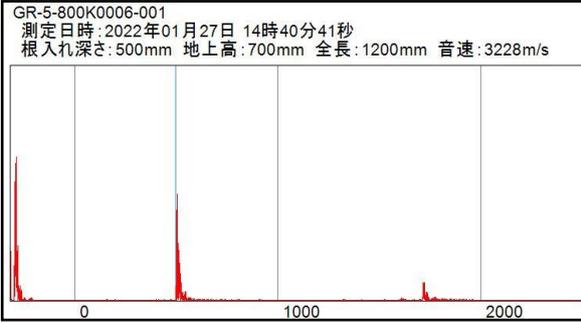
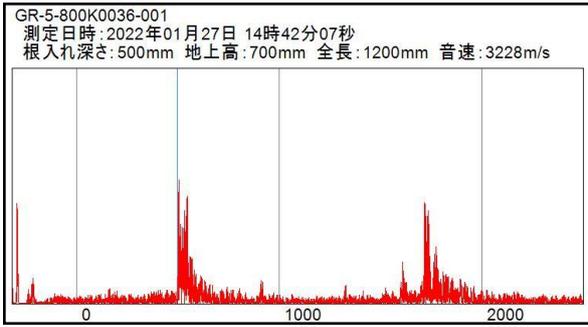
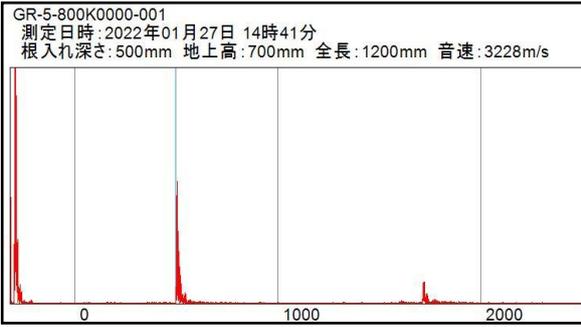
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(10/18)



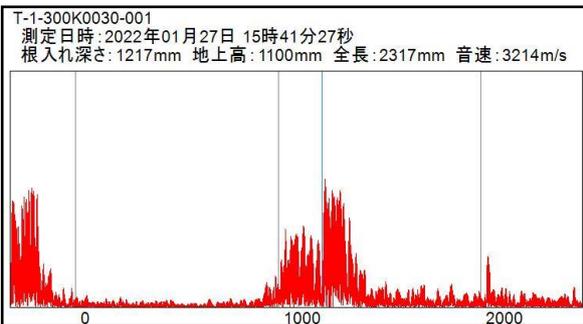
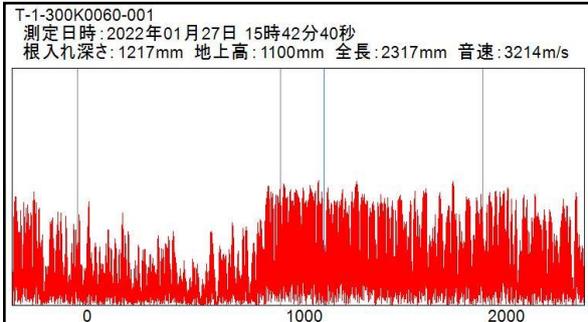
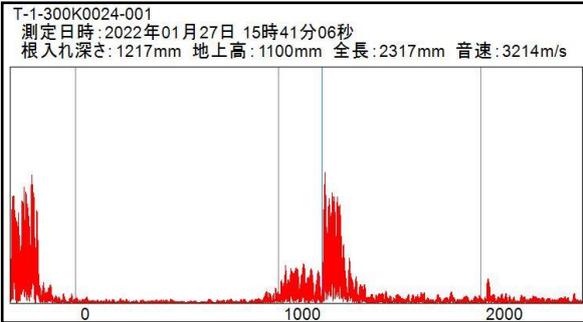
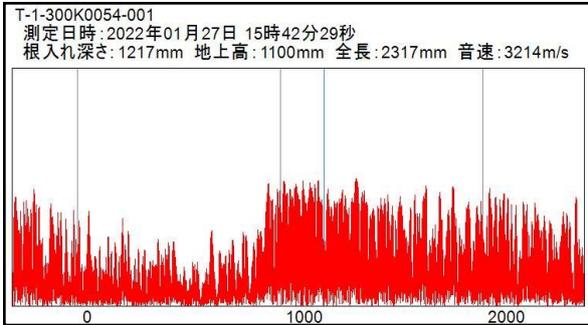
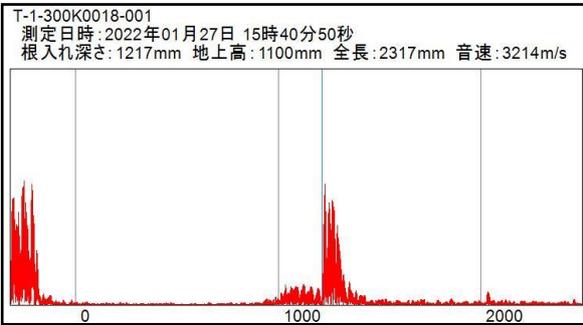
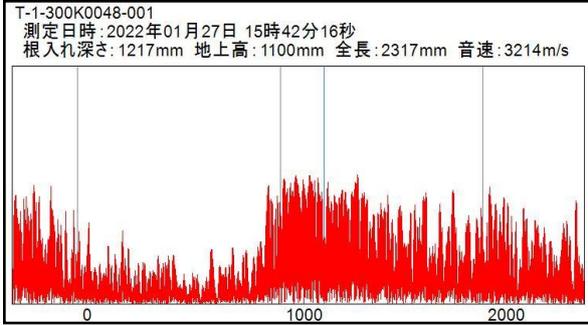
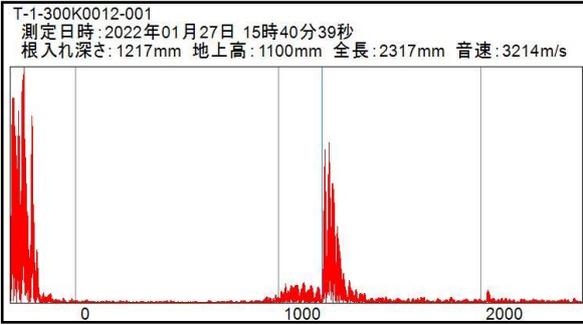
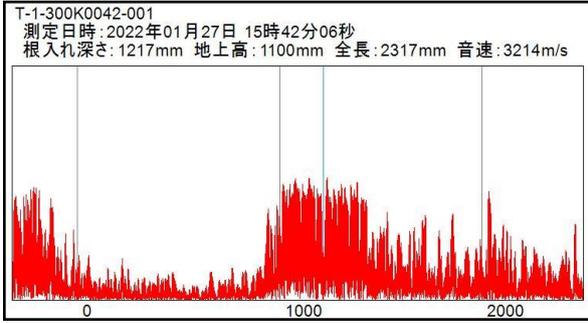
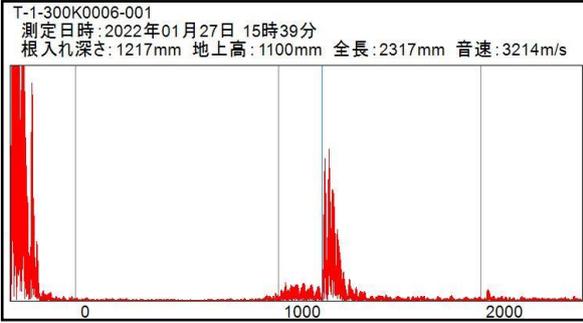
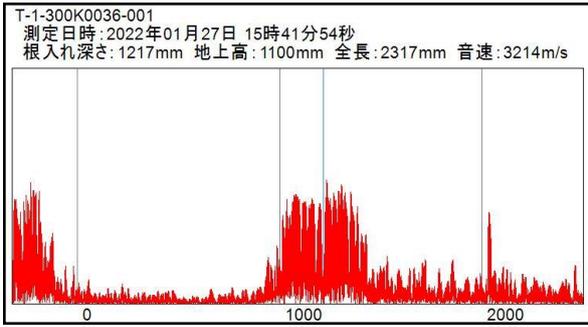
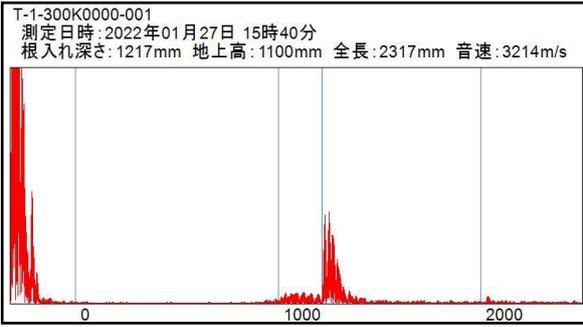
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(11/18)



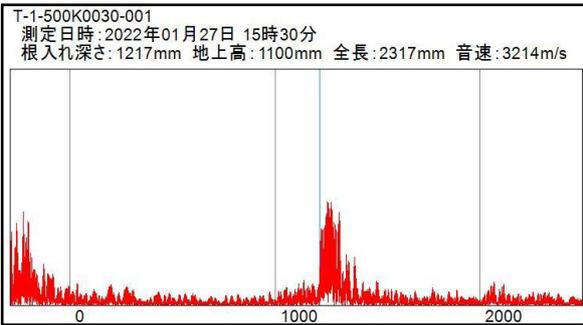
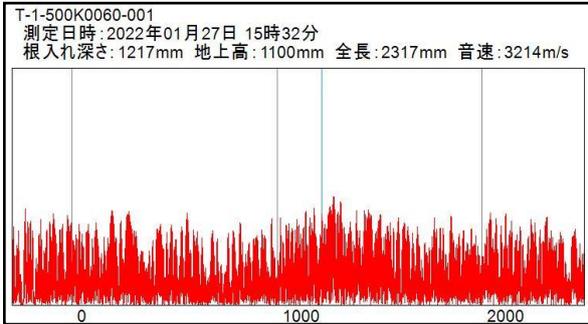
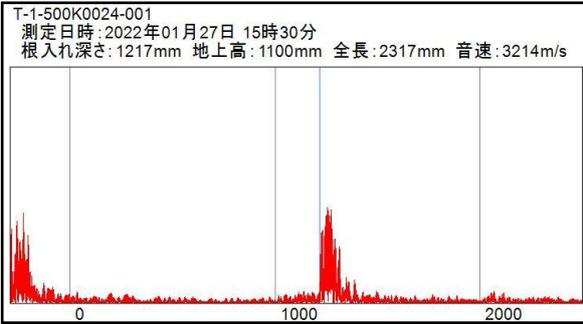
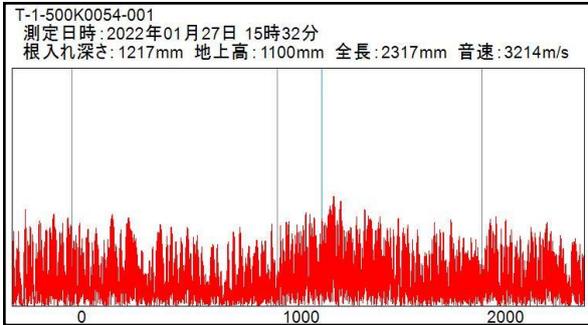
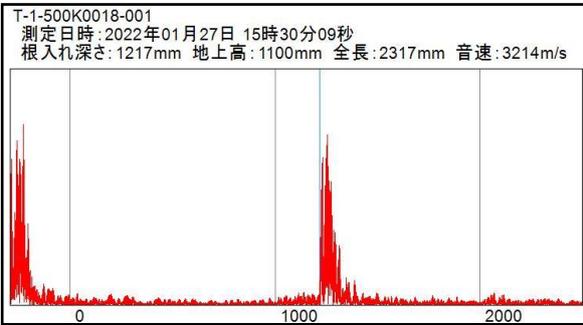
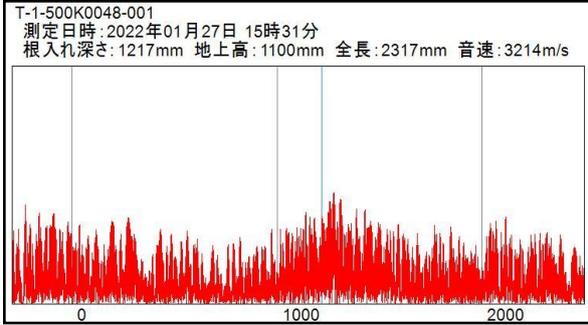
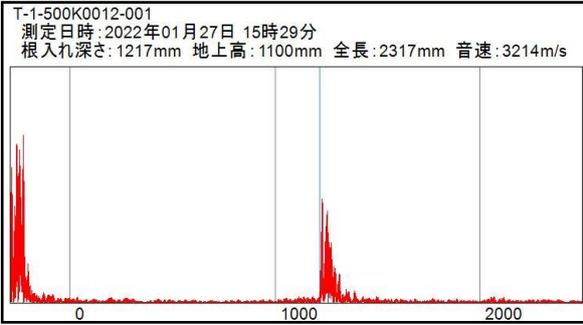
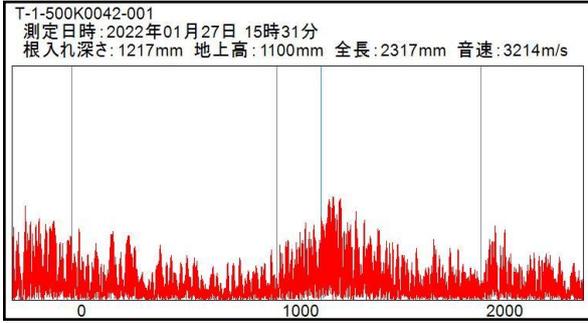
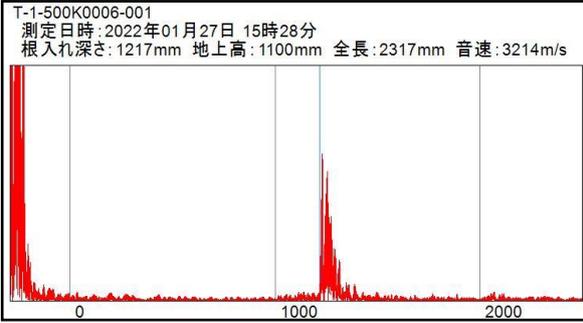
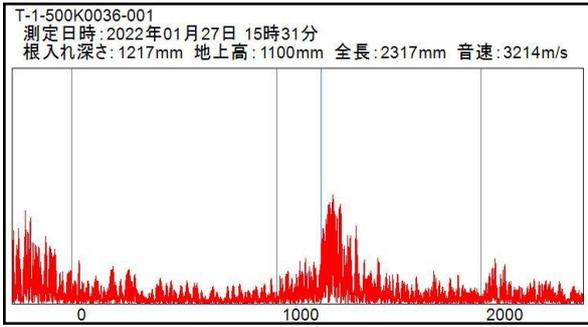
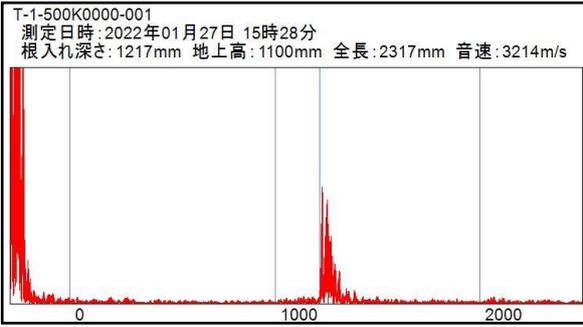
WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」（12/18）



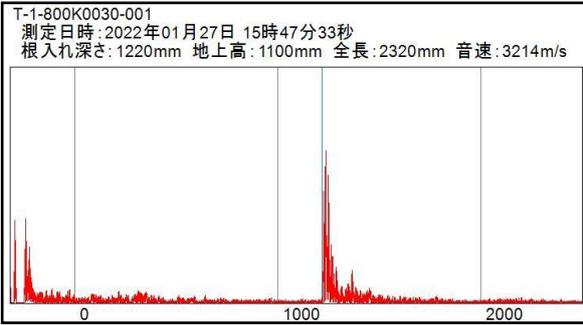
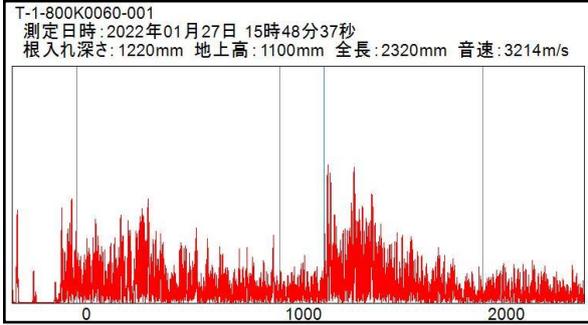
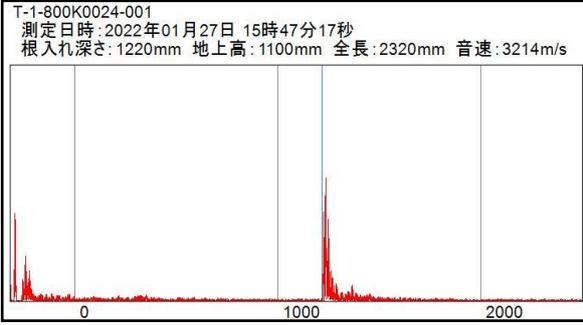
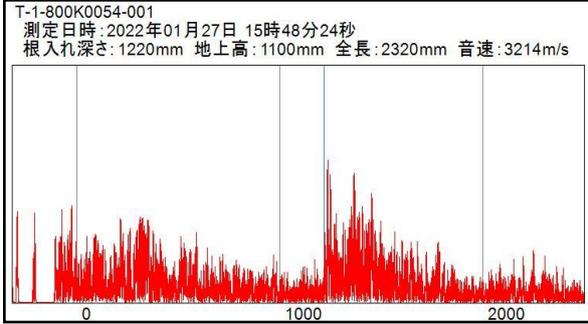
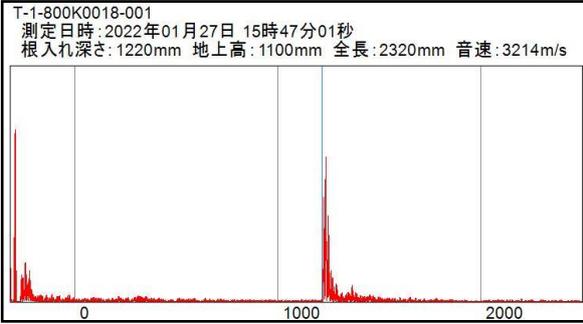
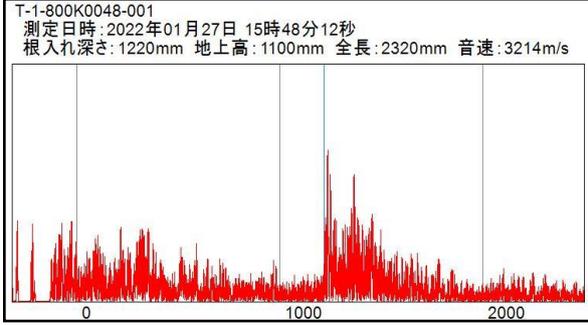
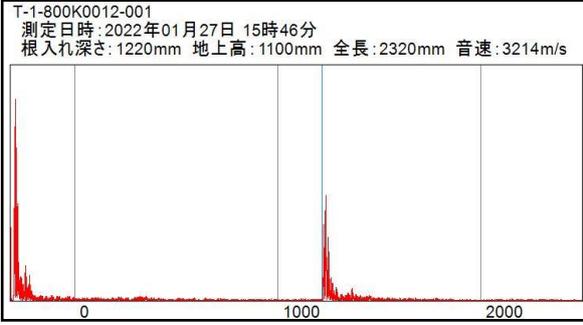
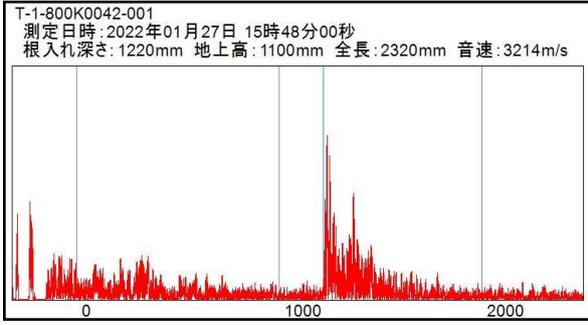
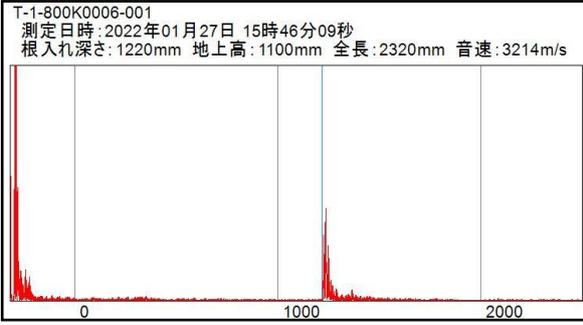
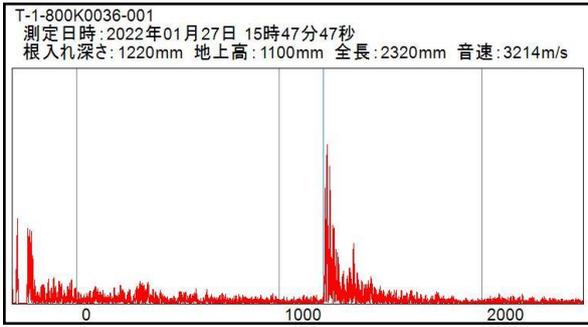
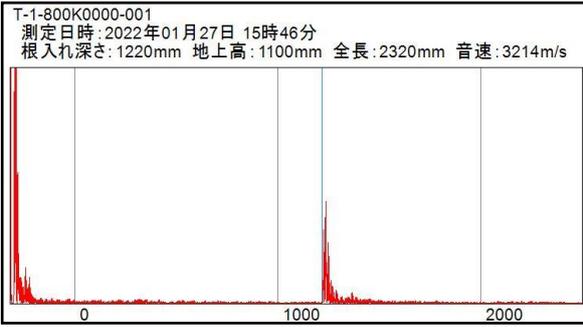
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(13/18)



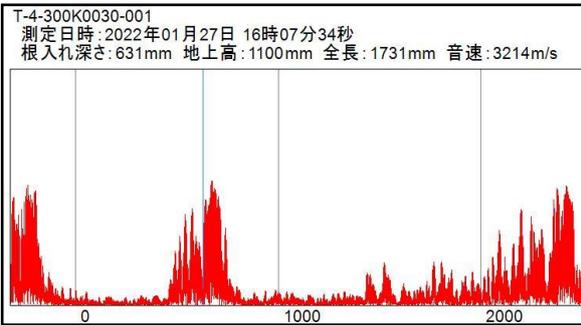
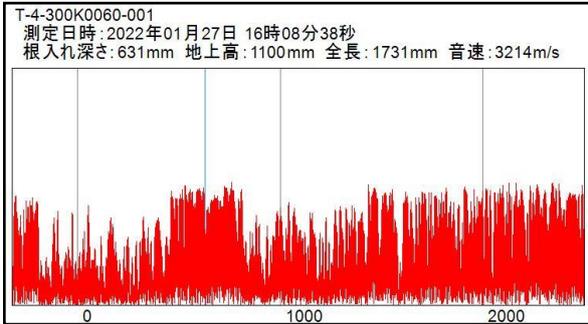
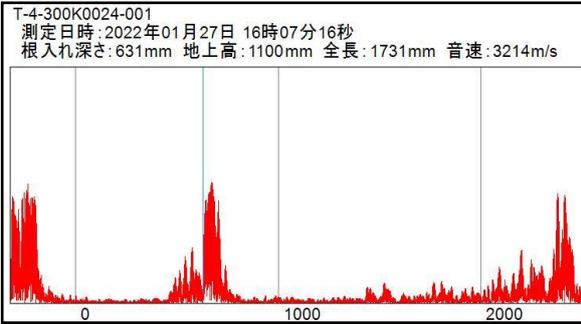
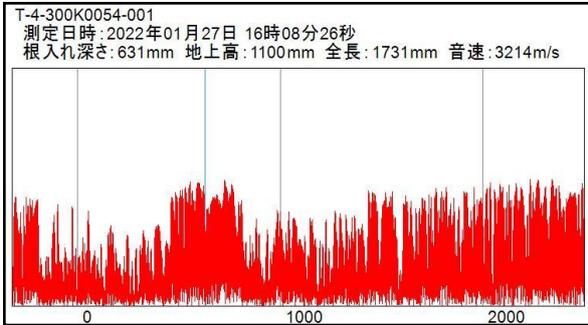
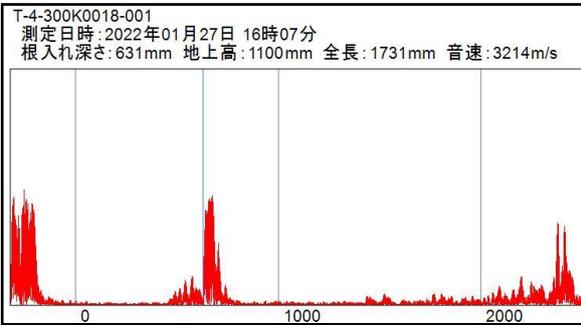
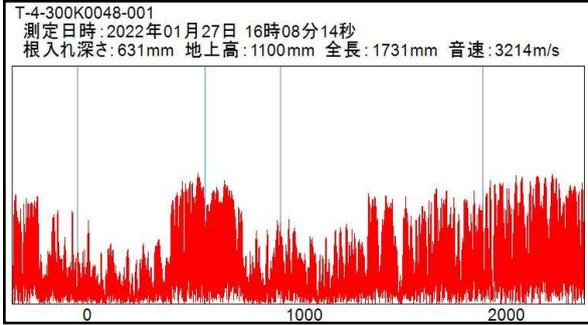
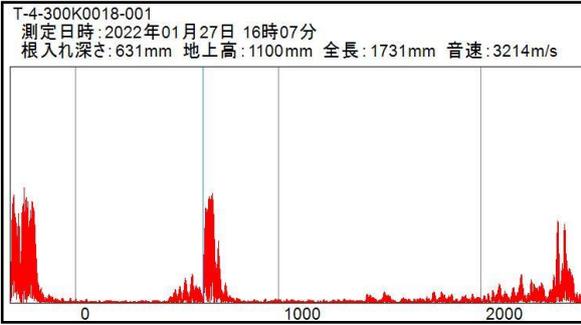
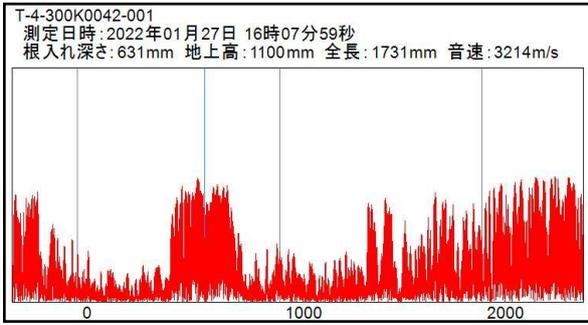
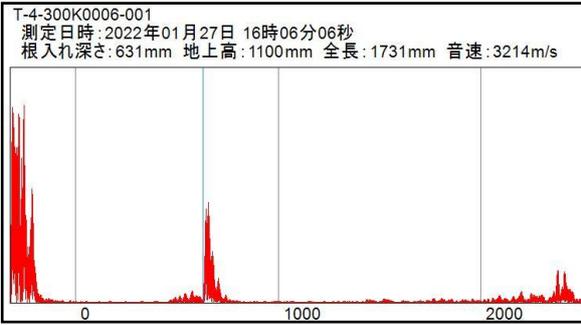
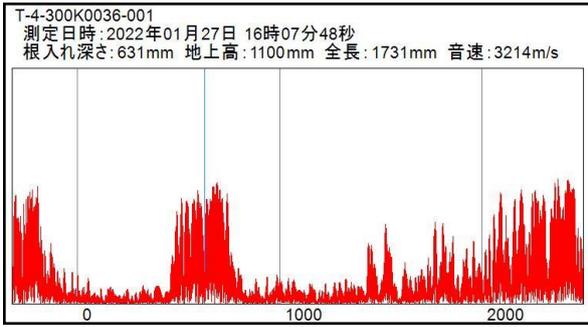
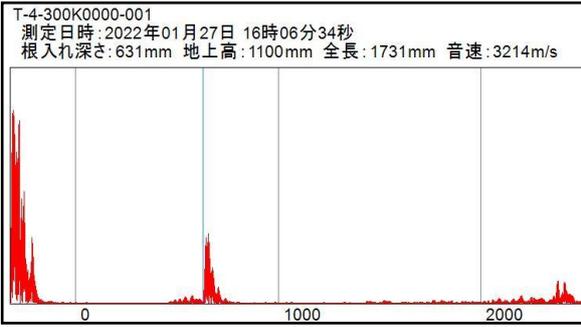
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(14/18)



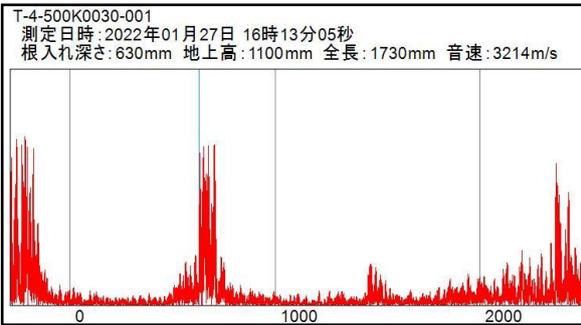
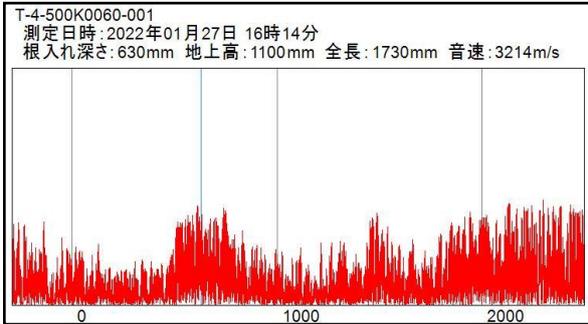
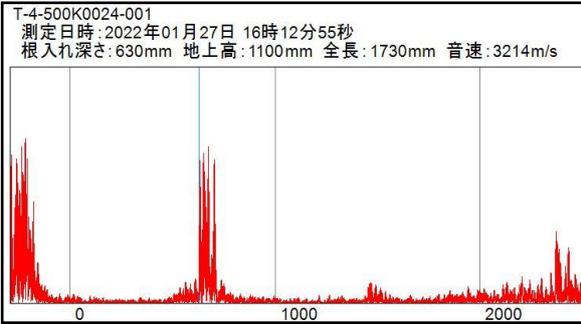
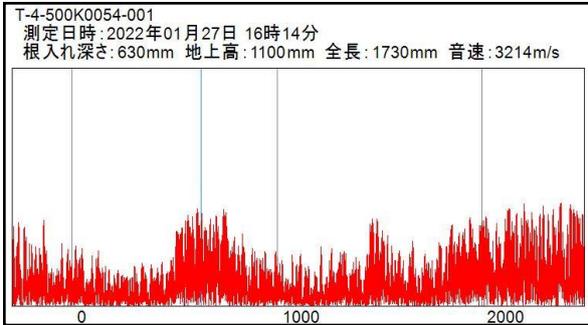
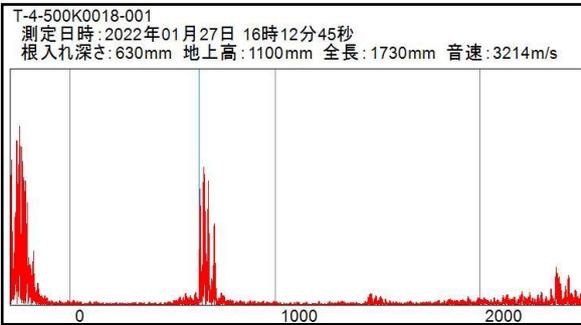
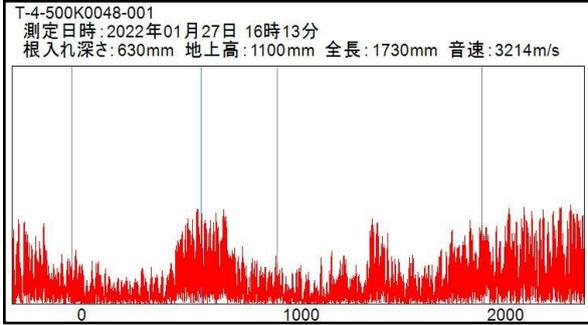
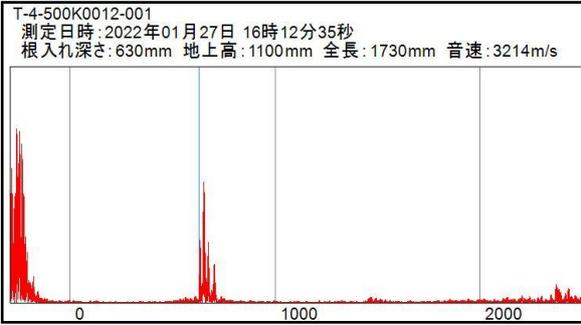
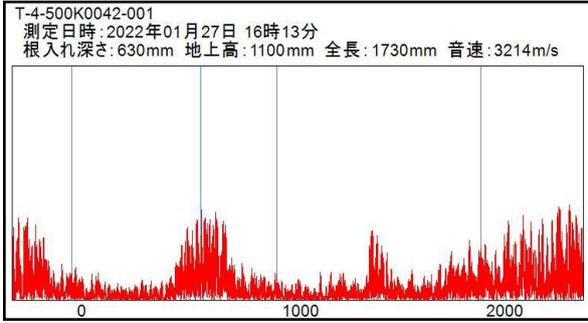
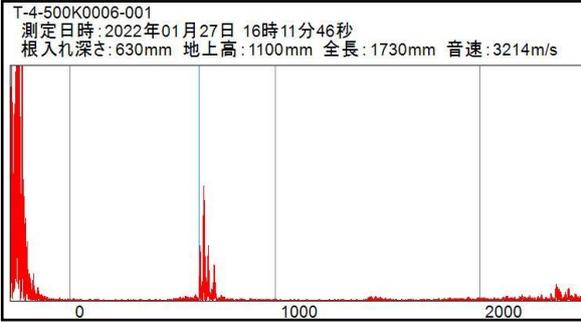
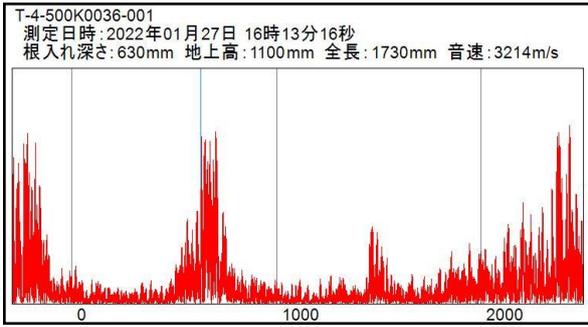
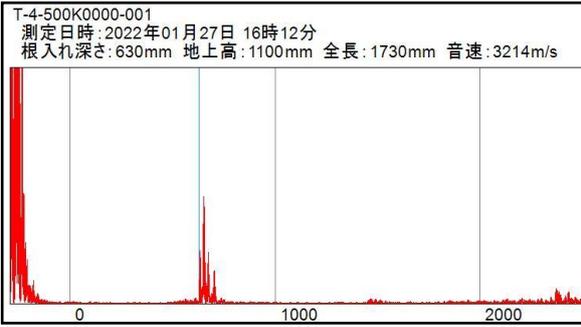
# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(15/18)



# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(16/18)



# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(17/18)



# WGNS02・基礎データ「異なる周波数センサーとゲイン（出力）の検出データ」(18/18)

