

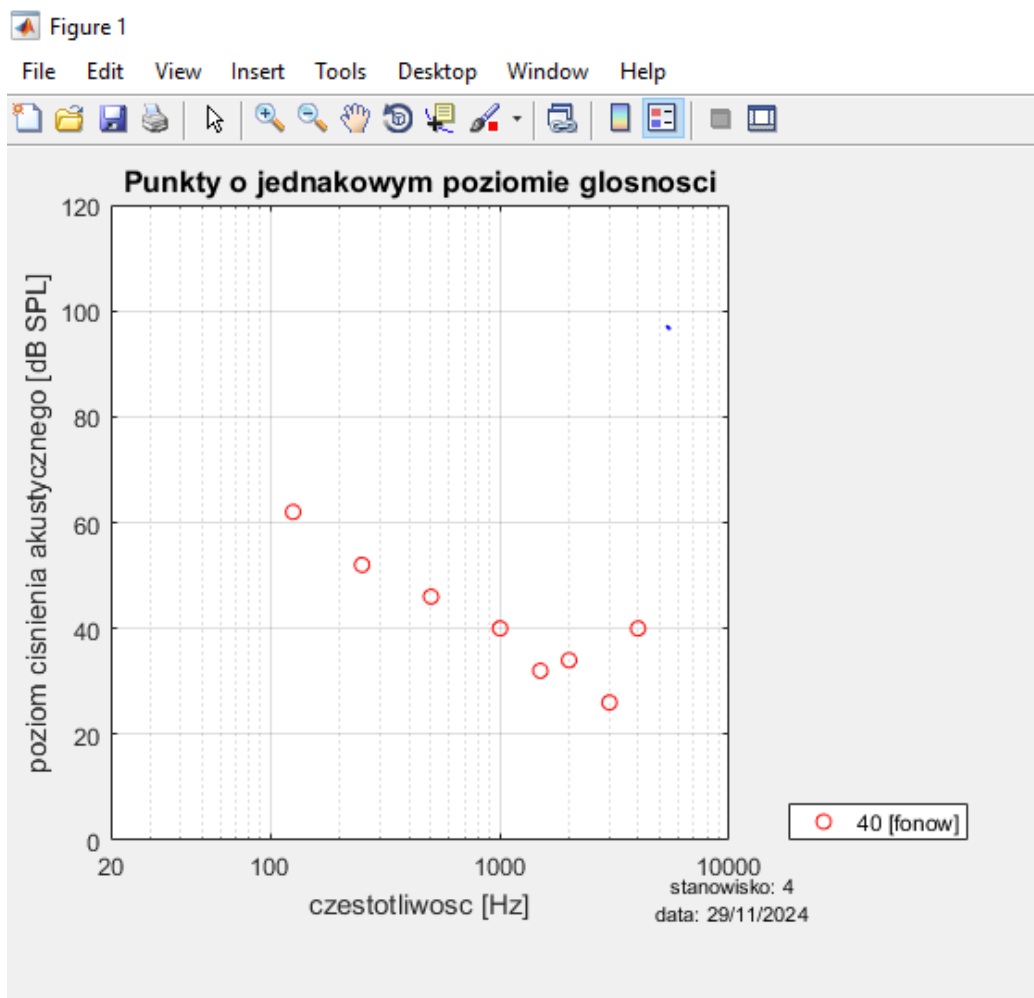
SPD Lab 1 Głośność

Krzysztof Rudnicki, 307585

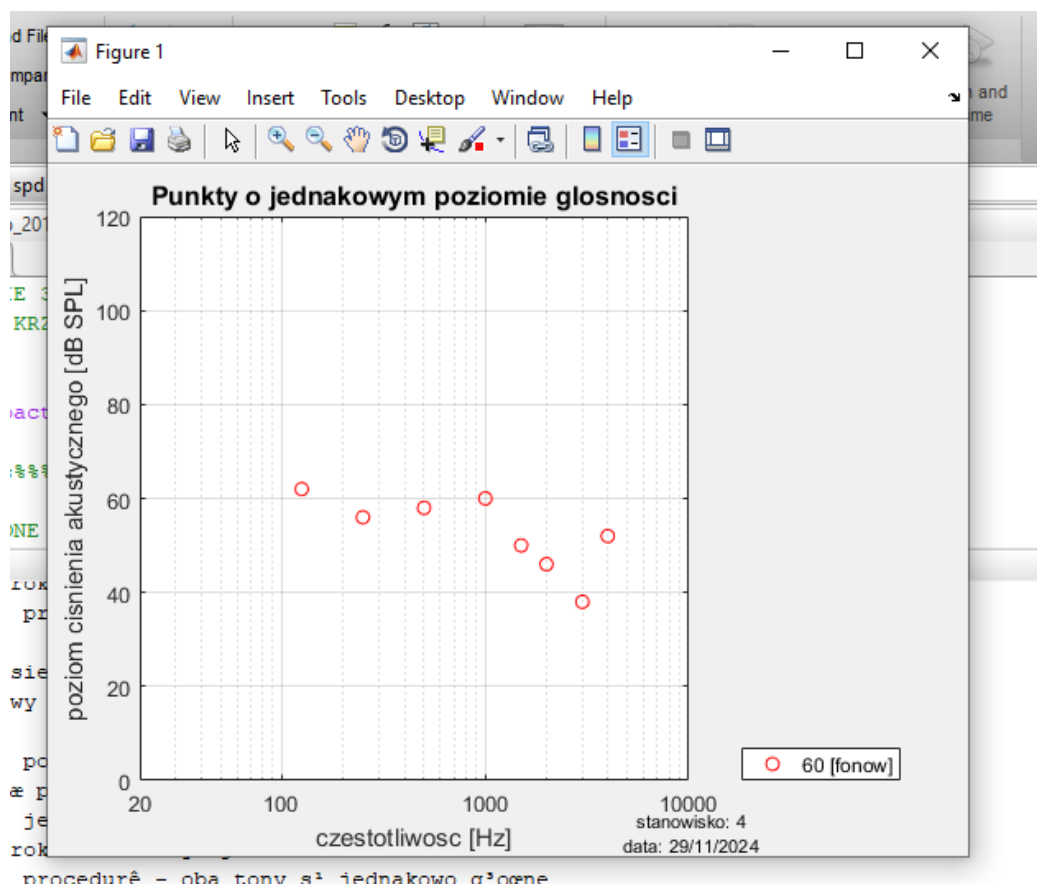
1 grudnia 2024

1 Krzywe poziomu głośności

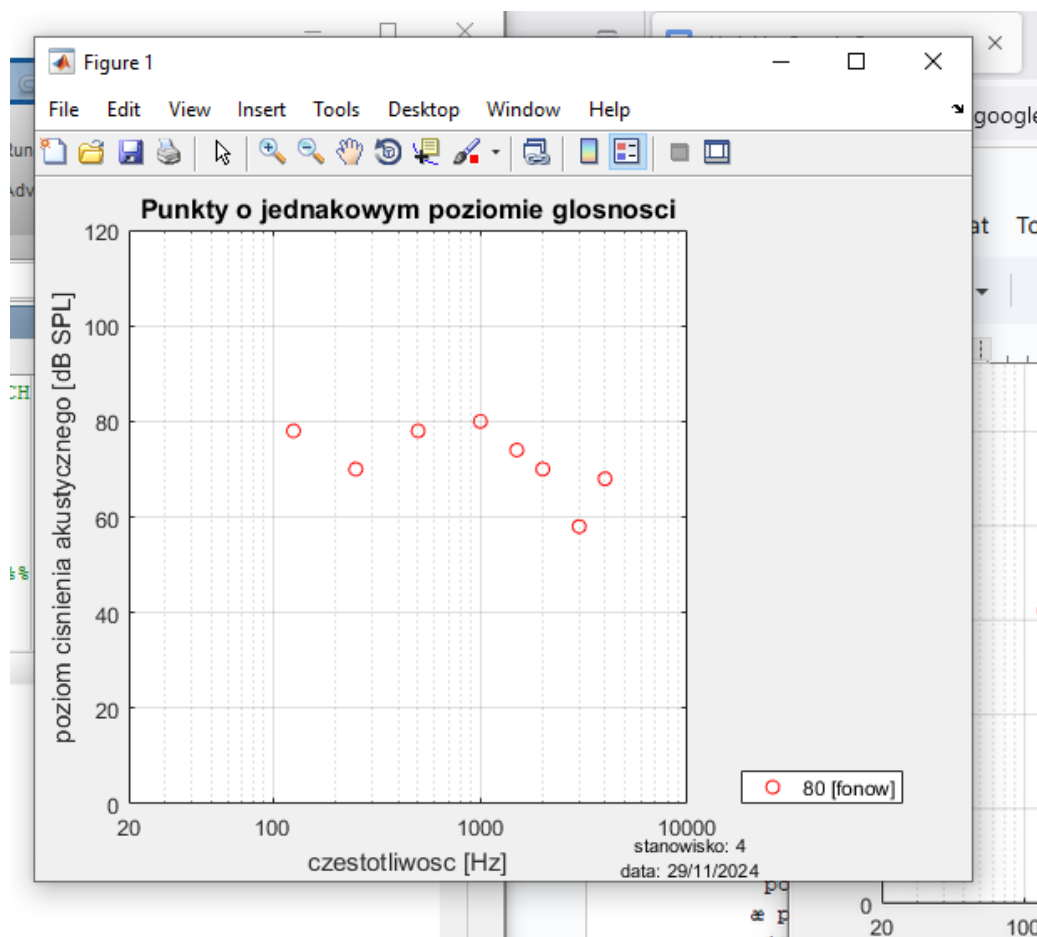
| | Częstotliwość f tonu regulowanego (Hz) | | | | | | | |
|--|--|-----|-----|------|------|------|------|------|
| Poziom tonu odniesienia 1000 Hz (dB) | 125 | 250 | 500 | 1000 | 1500 | 2000 | 3000 | 4000 |
| 40 | 62 | 52 | 46 | 40 | 32 | 34 | 26 | 40 |
| 60 | 62 | 56 | 58 | 60 | 50 | 46 | 38 | 52 |
| 80 | 78 | 70 | 78 | 80 | 74 | 70 | 58 | 68 |



Rysunek 1: Krzywa poziomu głośności dla 40 dB



Rysunek 2: Krzywa poziomu głośności dla 60 dB



Rysunek 3: Krzywa poziomu głośności dla 80 dB

2 Sony

Poziomy [fony] Poziomy [dB] i macierz ocen:

ans =

Columns 1 through 11

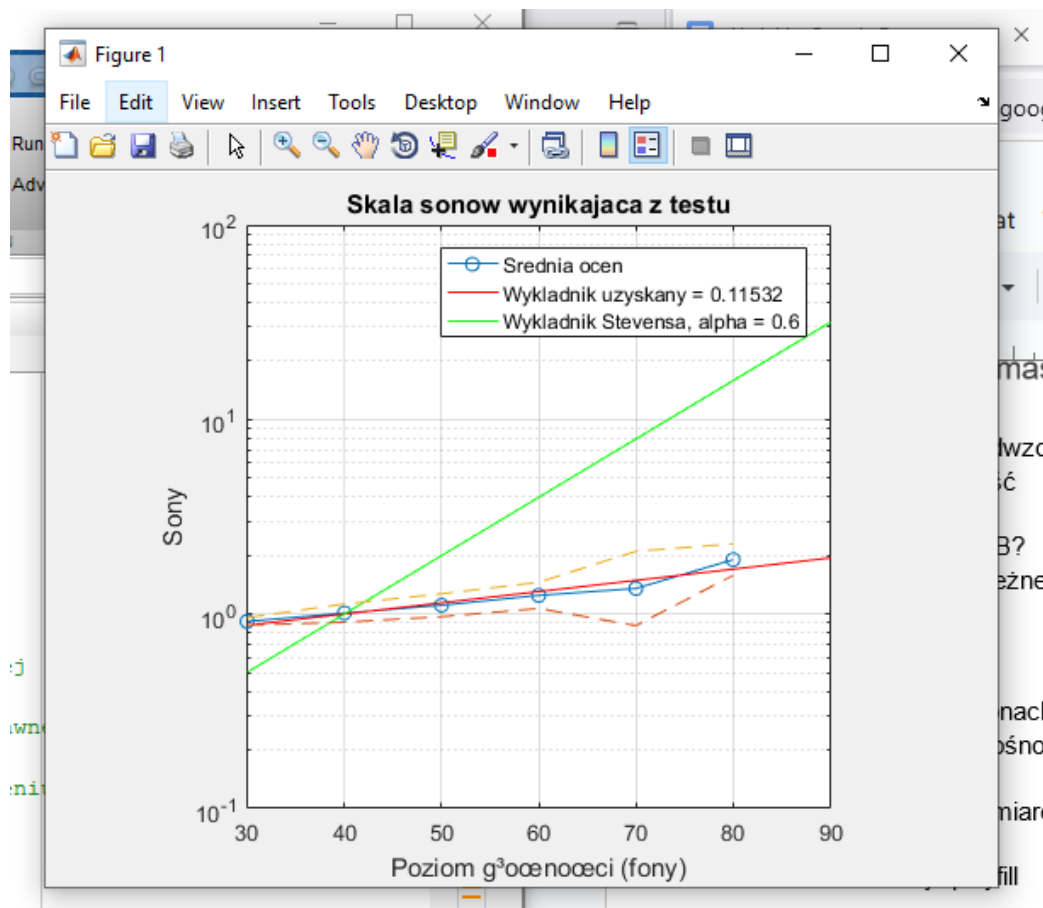
| | | | | |
|---------|---------|---------|---------|---------|
| 30.0000 | 30.0083 | 30.0000 | 30.0000 | 30.0000 |
| 30.0000 | 30.0000 | 30.0000 | 30.0000 | 33.0000 |
| 30.0000 | 40.0000 | 40.0100 | 35.0000 | 30.0000 |
| 35.0000 | 30.0000 | 35.0000 | 30.0000 | 30.0000 |
| 30.0000 | 35.0000 | 50.0000 | 50.0110 | 50.0000 |
| 30.0000 | 40.0000 | 35.0000 | 35.0000 | 40.0000 |
| 40.0000 | 35.0000 | 40.0000 | 60.0000 | 60.0116 |
| 0.0000 | 35.0000 | 41.0000 | 46.0000 | 40.0000 |
| 50.0000 | 49.0000 | 40.0000 | 40.0000 | 70.0000 |
| 70.0119 | 40.0000 | 40.0000 | 45.0000 | 45.0000 |
| 50.0000 | 70.0000 | 45.0000 | 50.0000 | 60.0000 |
| 80.0000 | 80.0121 | 80.0000 | 65.0000 | 75.0000 |
| 75.0000 | 56.0000 | 50.0000 | 50.0000 | 55.0000 |
| 55.0000 | | | | |

Columns 12 through 22

| | | | | |
|---------|---------|---------|---------|---------|
| 30.0000 | 30.0000 | 28.0000 | 30.0000 | 32.0000 |
| 30.0000 | 25.0000 | 30.0000 | 30.0000 | 30.0000 |
| 29.0000 | 39.0000 | 30.0000 | 40.0000 | 30.0000 |
| 35.0000 | 30.0000 | 30.0000 | 35.0000 | 30.0000 |
| 35.0000 | 33.0000 | 30.0000 | 39.0000 | 38.0000 |
| 30.0000 | 35.0000 | 35.0000 | 30.0000 | 45.0000 |
| 40.0000 | 39.0000 | 30.0000 | 33.0000 | 35.0000 |
| 40.0000 | 35.0000 | 35.0000 | 40.0000 | 40.0000 |
| 35.0000 | 38.0000 | 55.0000 | 30.0000 | 40.0000 |
| 55.0000 | 45.0000 | 45.0000 | 40.0000 | 40.0000 |
| 60.0000 | 40.0000 | 45.0000 | 48.0000 | 65.0000 |
| 50.0000 | 60.0000 | 78.0000 | 78.0000 | 45.0000 |
| 45.0000 | 80.0000 | 70.0000 | 55.0000 | 75.0000 |
| 60.0000 | | | | |

Columns 23 through 32

| | | | | |
|---------|---------|---------|---------|---------|
| 30.0000 | 29.0000 | 28.0000 | 30.0000 | 29.0000 |
| 29.0000 | 30.0000 | 30.0000 | 30.0000 | 30.0000 |
| 30.0000 | 30.0000 | 40.0000 | 38.0000 | 30.0000 |
| 30.0000 | 35.0000 | 29.0000 | 30.0000 | 40.0000 |
| 40.0000 | 40.0000 | 37.0000 | 30.0000 | 30.0000 |
| 35.0000 | 36.0000 | 35.0000 | 30.0000 | 40.0000 |
| 40.0000 | 40.0000 | 45.0000 | 39.0000 | 45.0000 |
| 60.0000 | 40.0000 | 50.0000 | 36.0000 | 35.0000 |
| 40.0000 | 45.0000 | 55.0000 | 40.0000 | 42.0000 |
| 45.0000 | 50.0000 | 60.0000 | 45.0000 | 5.0000 |
| 65.0000 | 75.0000 | 50.0000 | 45.0000 | 70.0000 |
| 65.0000 | 55.0000 | 70.0000 | 70.0000 | 60.0000 |



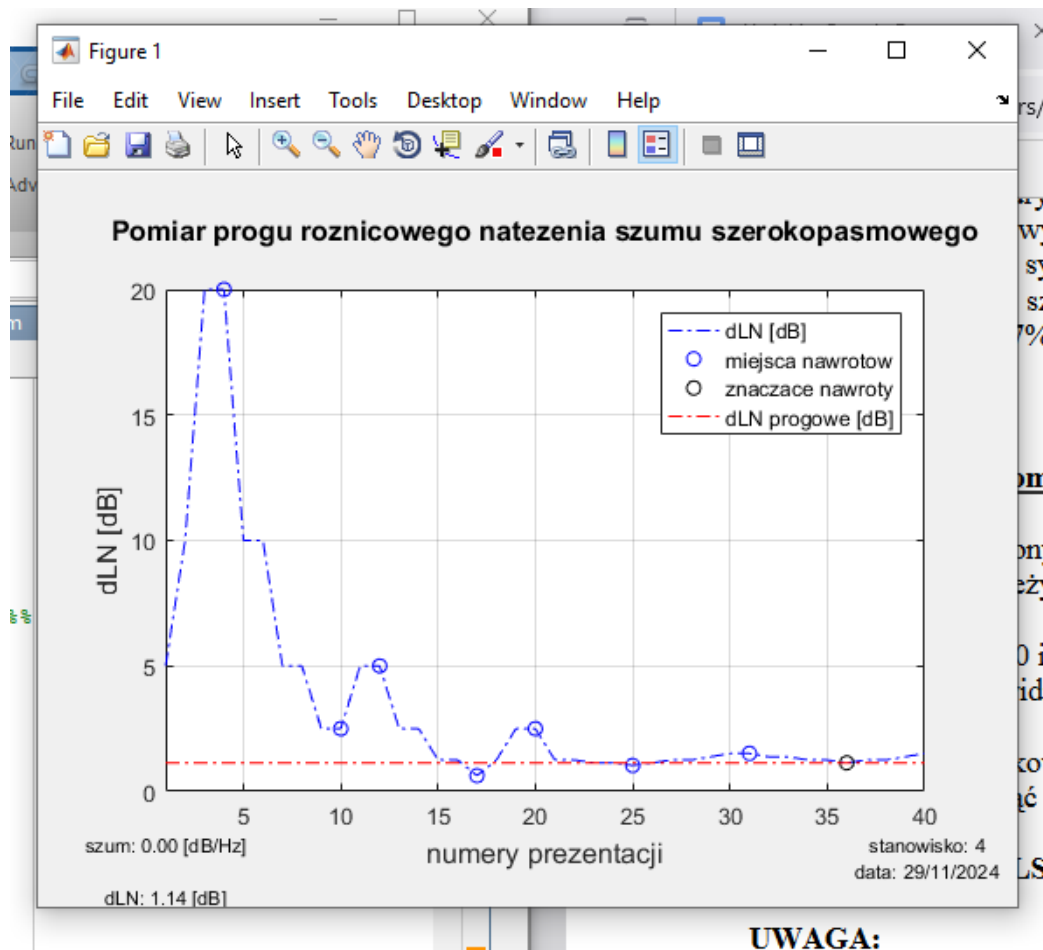
Rysunek 4: Macierz ocen Sony

| Poziomy [fony] | Poziomy [dB] | Oceny œrednie | Zakres minus | Zakres plus |
|----------------|--------------|---------------|--------------|-------------|
| 30.0000 | 30.0083 | 29.7054 | 28.4096 | 31.0602 |
| 40.0000 | 40.0100 | 32.7776 | 29.4227 | 36.5149 |
| 50.0000 | 50.0110 | 35.9764 | 31.4093 | 41.2075 |
| 60.0000 | 60.0116 | 40.4154 | 34.6291 | 47.1686 |
| 70.0000 | 70.0119 | 43.8832 | 28.2547 | 68.1563 |
| 80.0000 | 80.0121 | 61.7038 | 51.2020 | 74.3595 |

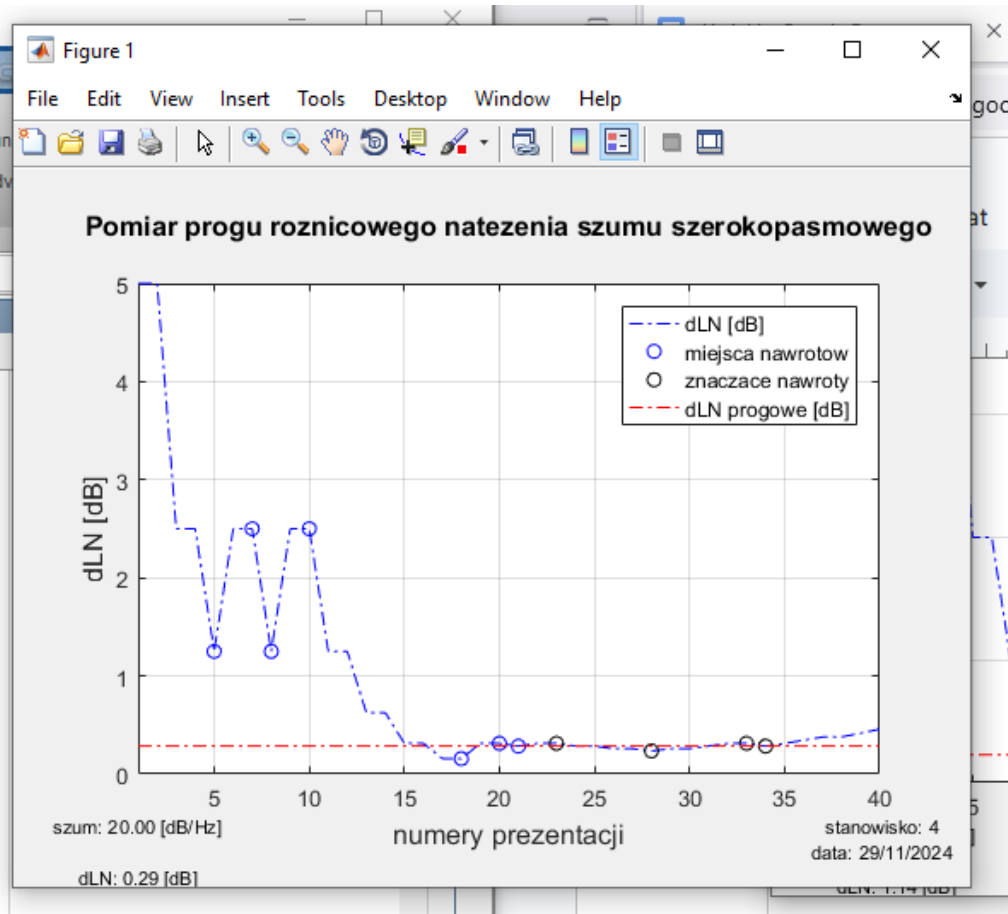
| Poziomy [fony] | Poziomy [dB] | Wartości w sonach | Zakres minus | Zakres plus |
|----------------|--------------|-------------------|--------------|-------------|
| 30.0000 | 30.0083 | 0.9163 | 0.8764 | 0.9581 |
| 40.0000 | 40.0100 | 1.0111 | 0.9076 | 1.1264 |
| 50.0000 | 50.0110 | 1.1098 | 0.9689 | 1.2712 |
| 60.0000 | 60.0116 | 1.2467 | 1.0682 | 1.4550 |
| 70.0000 | 70.0119 | 1.3537 | 0.8716 | 2.1025 |
| 80.0000 | 80.0121 | 1.9034 | 1.5795 | 2.2938 |

3 ΔL

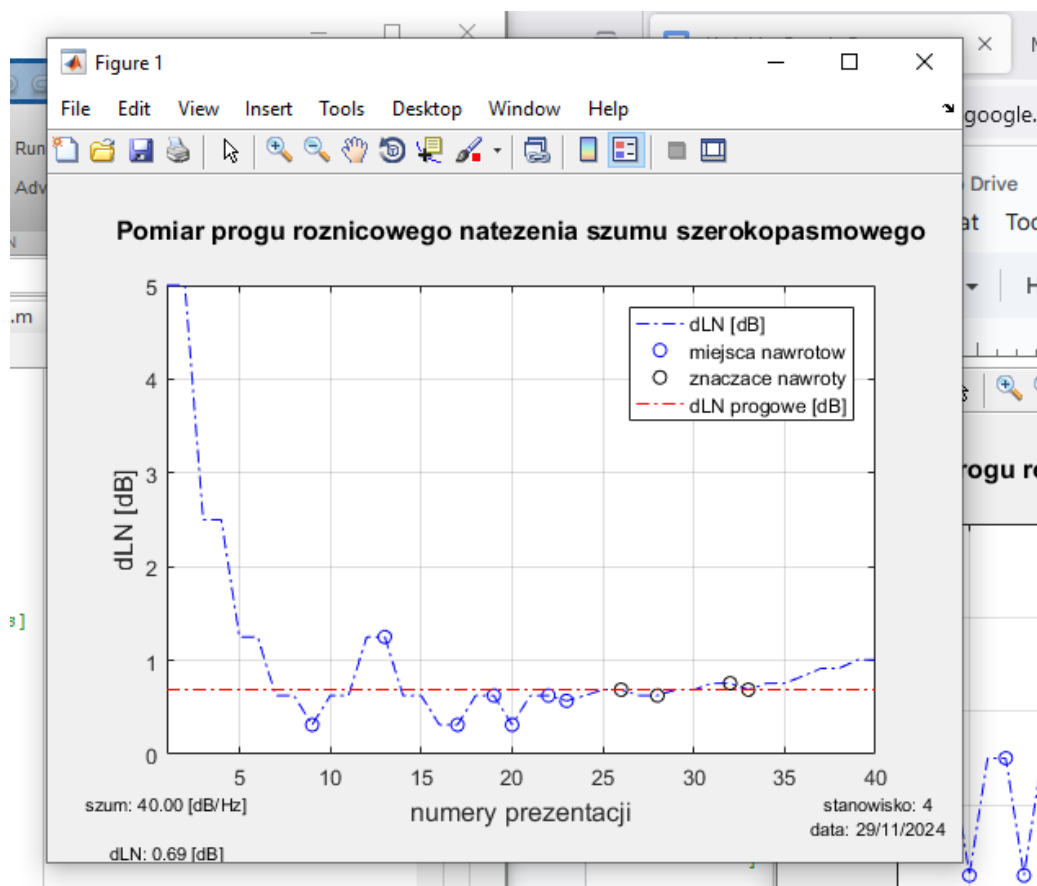
3.1 ΔL szum



Rysunek 5: ΔL szum 0 dB

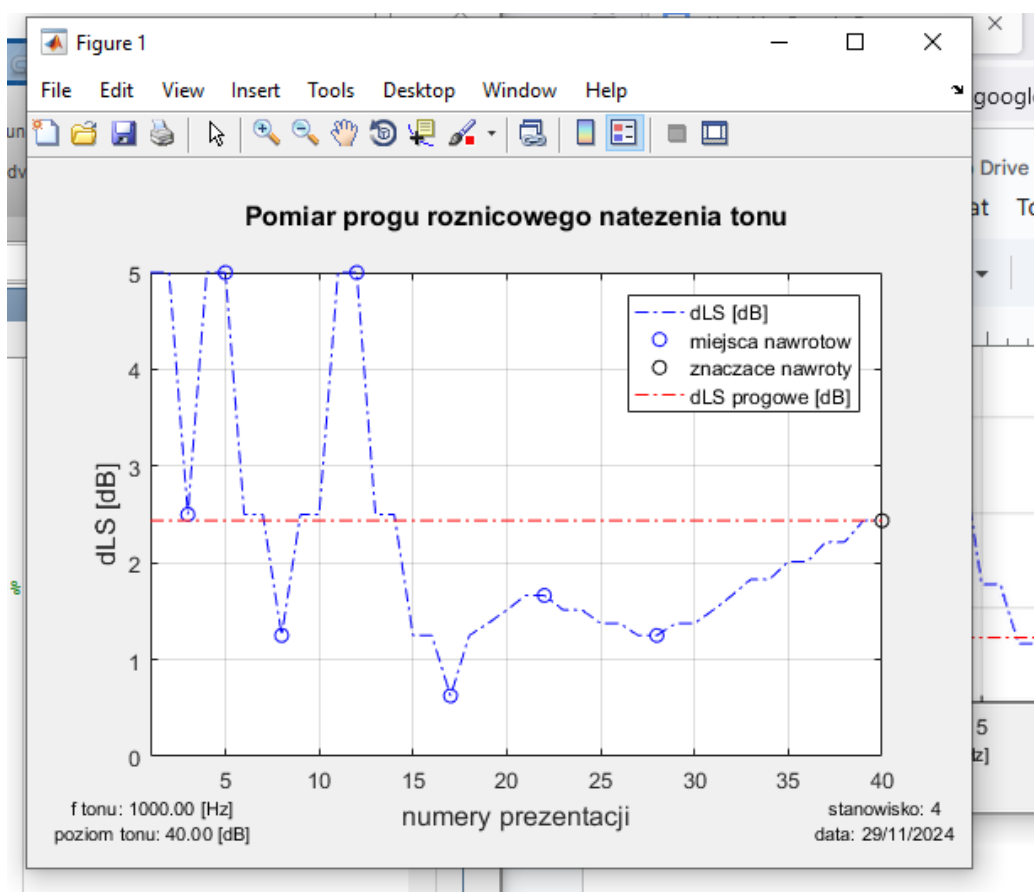


Rysunek 6: ΔL szum 20 dB

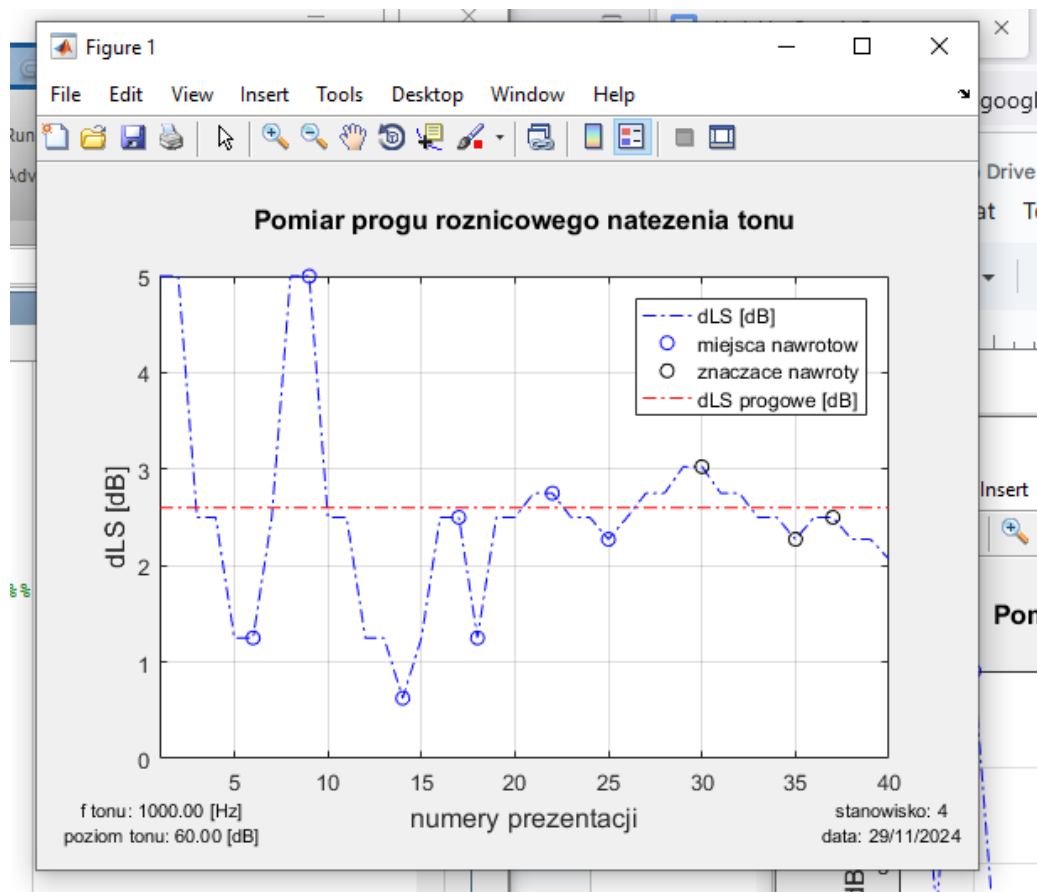


Rysunek 7: ΔL szum 40 dB

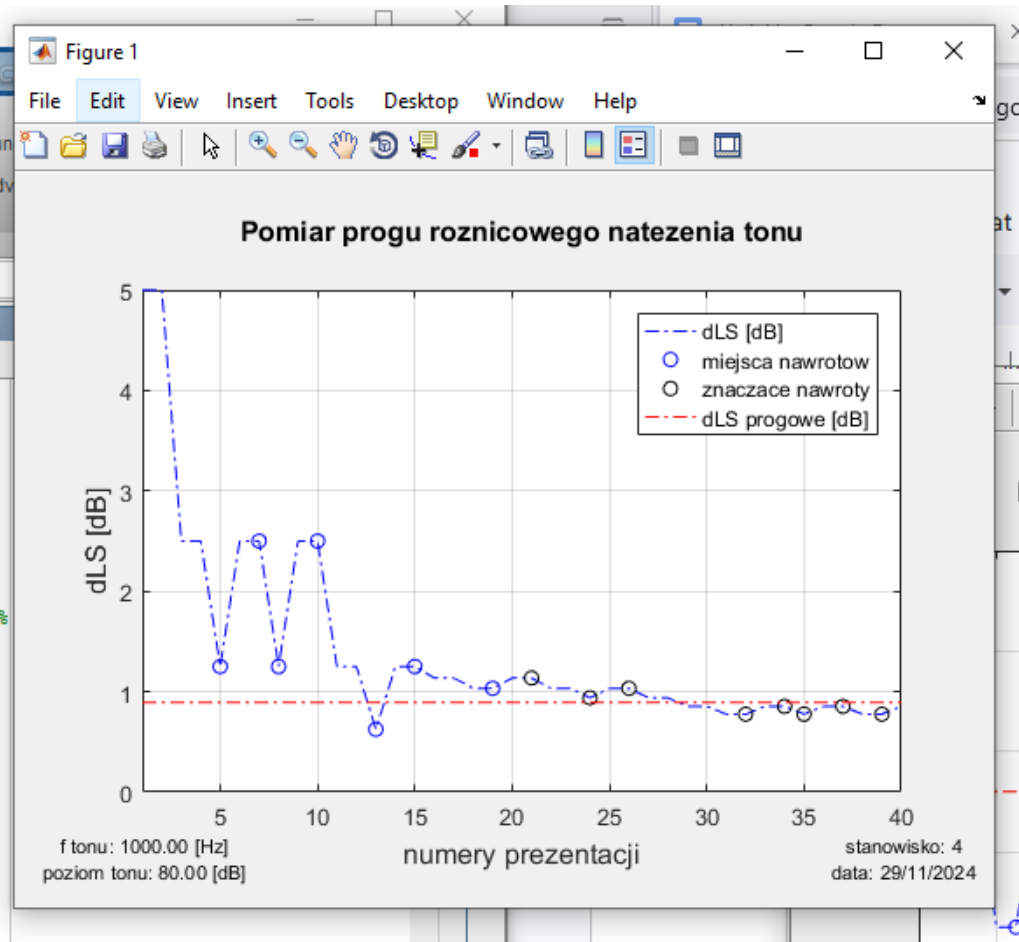
3.2 ΔL ton



Rysunek 8: ΔL ton 40 dB



Rysunek 9: ΔL ton 60 dB



Rysunek 10: ΔL ton 80 dB