



Afinador de instrumentos musicais

TE073 – Processamento Digital de Sinais II

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Agenda

- A idéia
- Afinação de um violão
- Desenvolvimento no MATLAB
 - Back-end
 - Interface gráfica (GUI)
- Desenvolvimento no LABVIEW



A idéia

- Gibson Robot Guitar
 - Afinação automática
 - Valor de mercado: R\$8.000,00



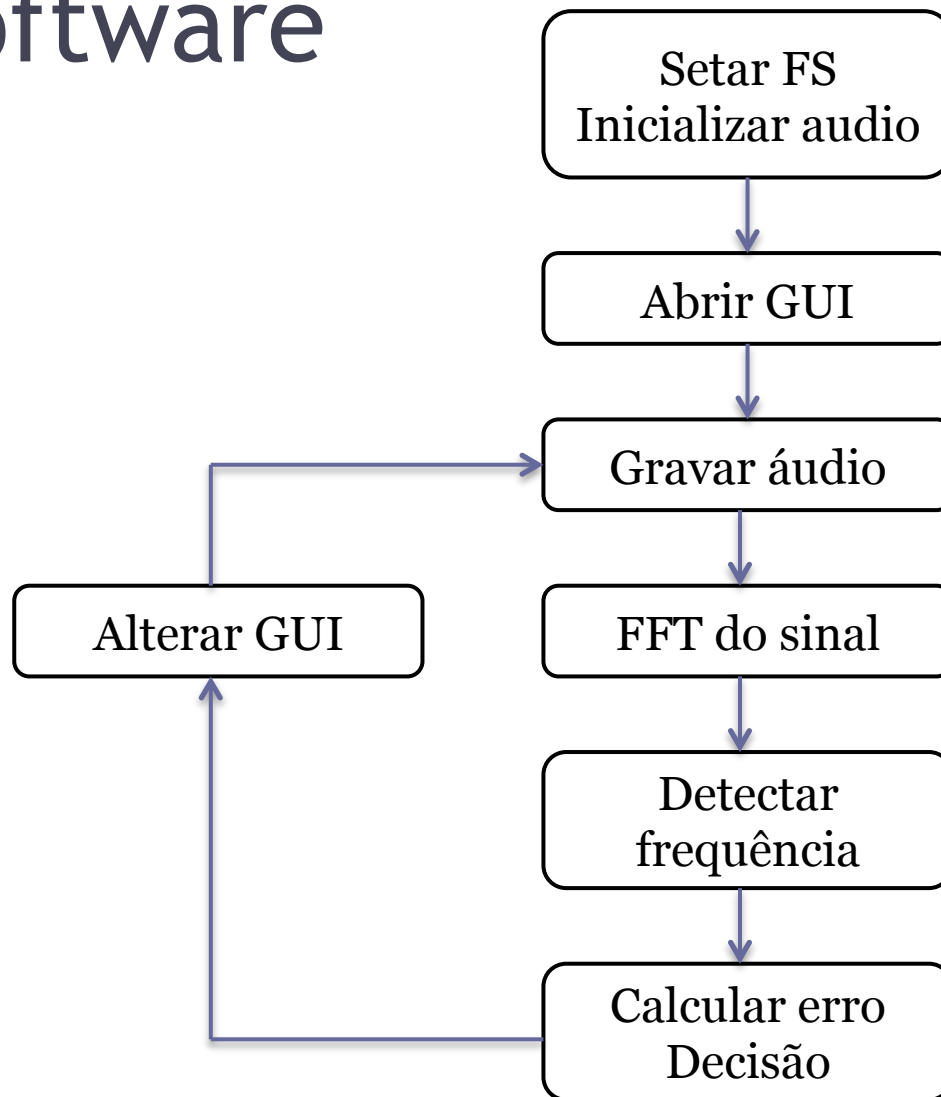
Afinação de um violão



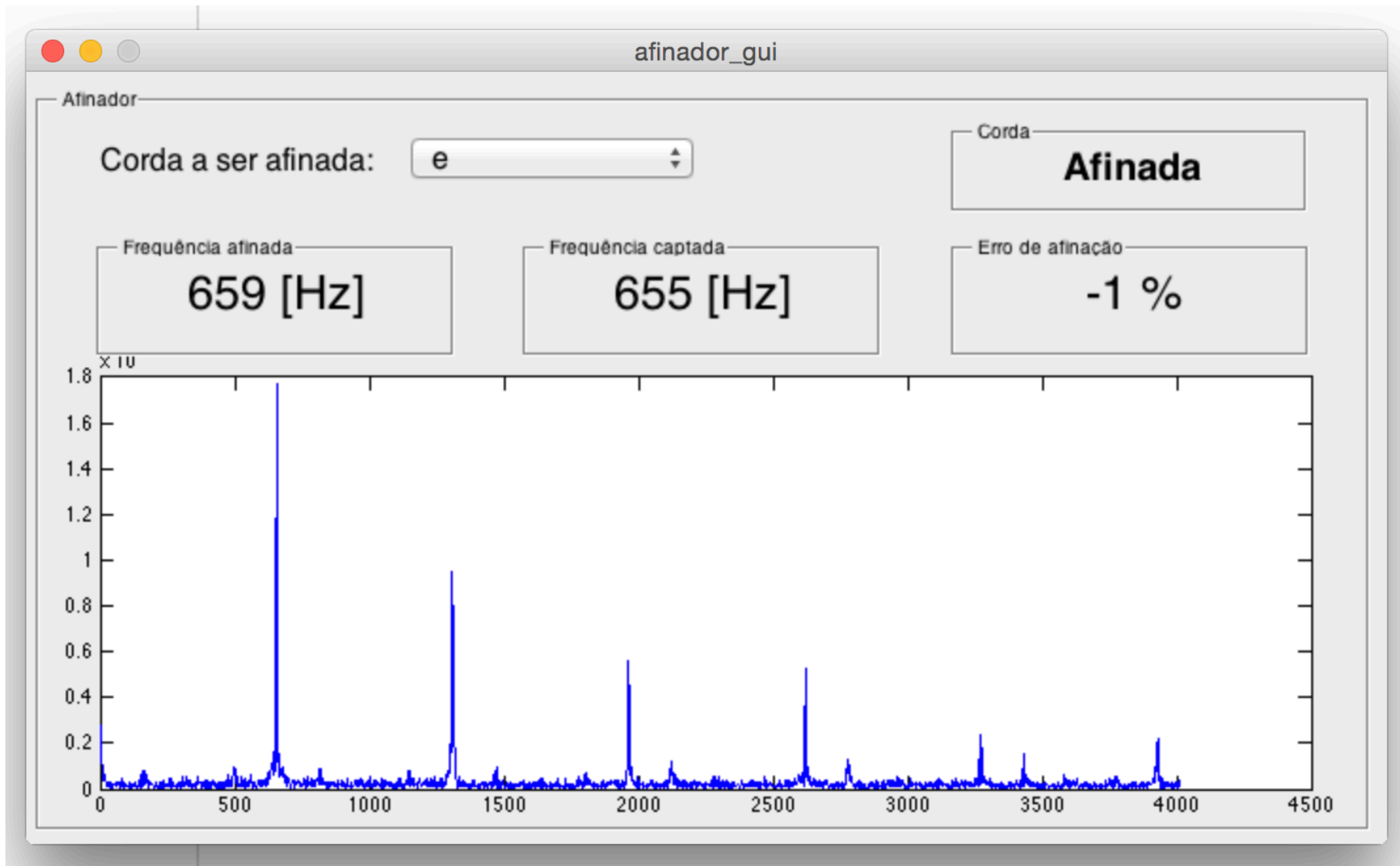
Afinação de um violão pelas harmônicas

Nota musical (2a Harmonica)	Frequência (Hz)
E	164
B	219
G	293
D	392
A	493
E	659

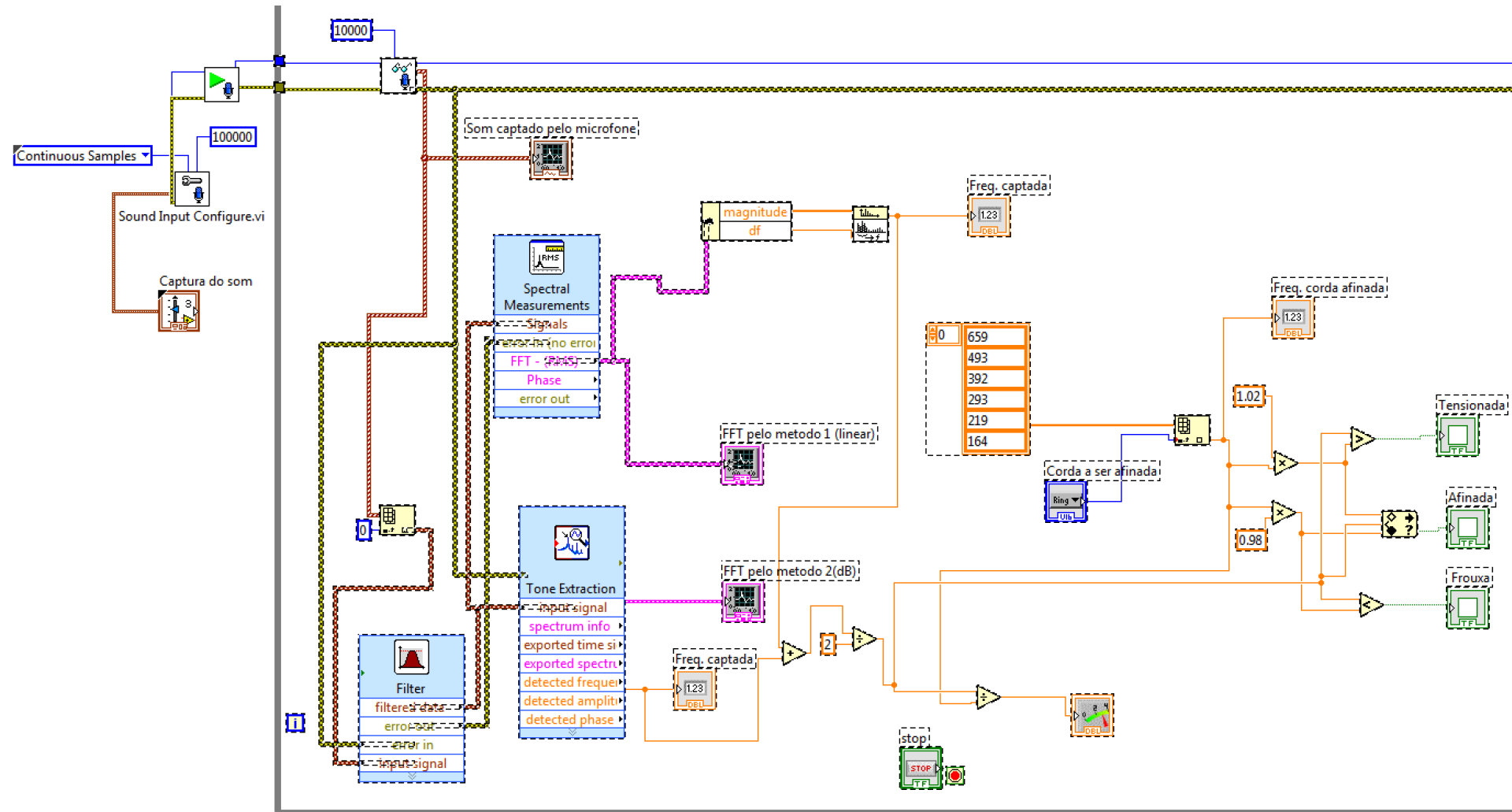
Software



GUI



LABVIEW backstage



LABVIEW GUI

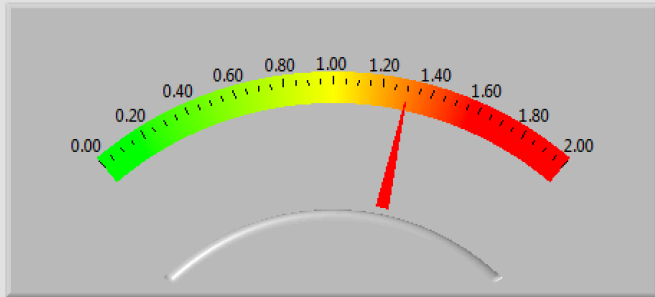
Corda a ser afinada
e

Freq. corda afinada 659.00

Freq. captada 856.21

Freq. captada 856.06

Frouxa Afinada Tensionada



Captura do som

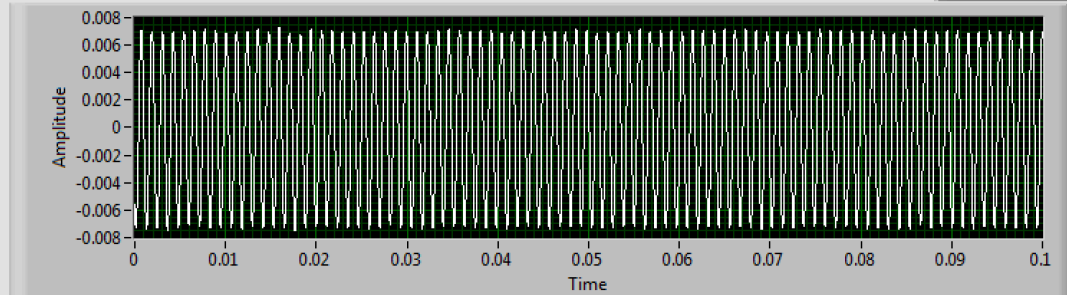
sample rate (S/s)
100000

number of channels
2

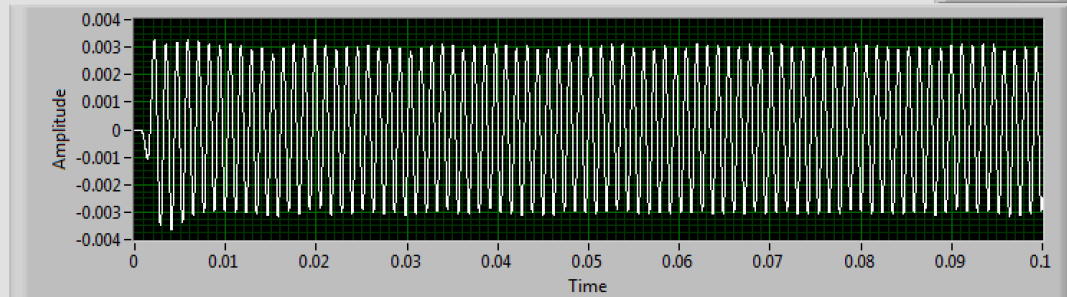
bits per sample
32

STOP

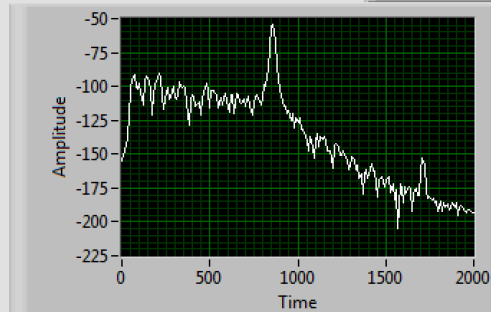
Som captado pelo microfone



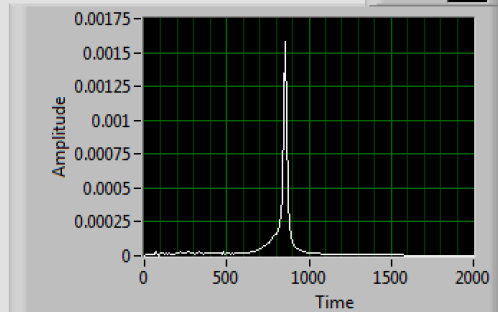
Som filtrado



FFT pelo metodo 2(dB)



FFT pelo metodo 1 (linear)





Obrigado!

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