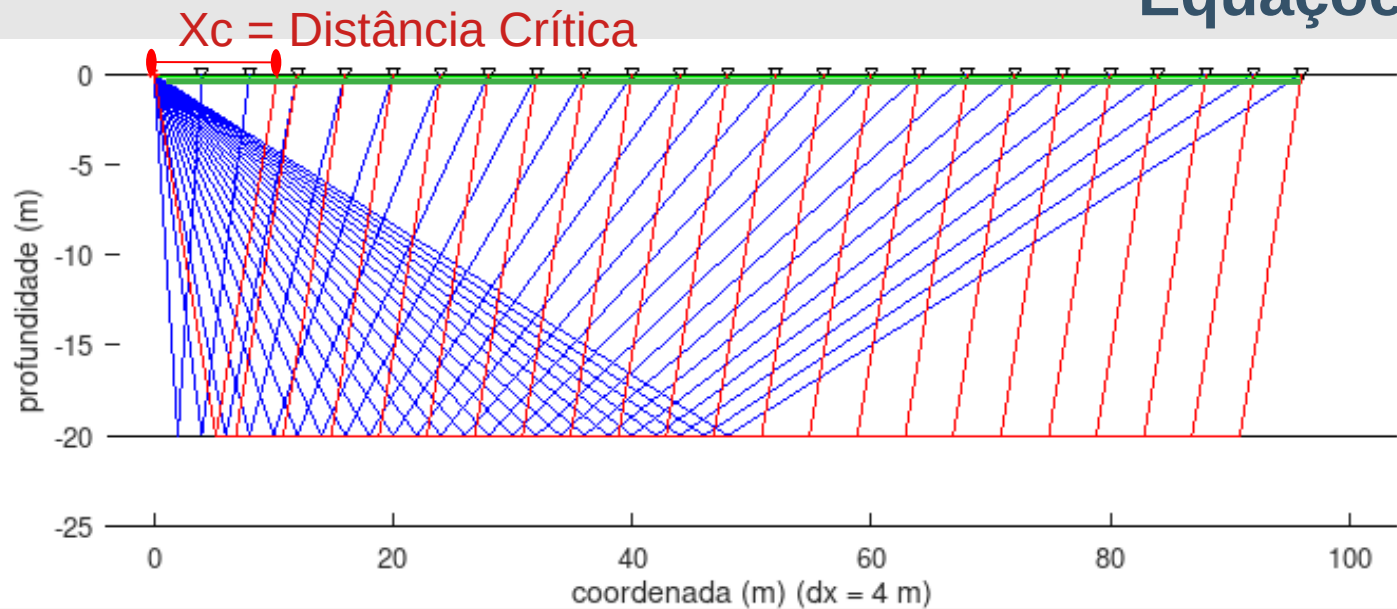


Cálculo da espessura

Equações tempo-distância (t(x))



Onda Direta

$$t_1(x) = \frac{X}{V_1}$$

Onda Refratada
(refração crítica)

na primeira interface

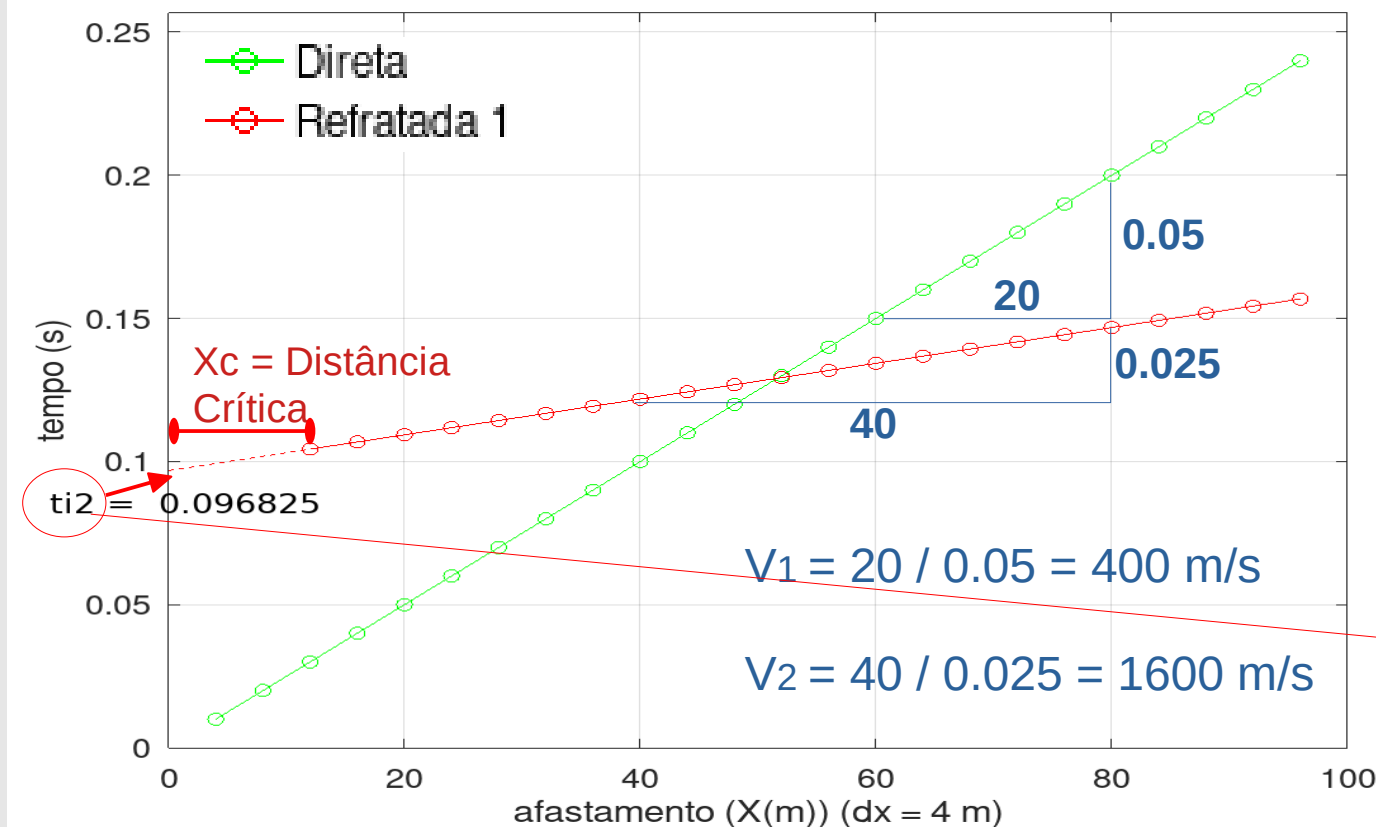
$$t_2(x) = \frac{X}{V_2} + \frac{2h_1 \cos(i_{12})}{V_1}$$

$$i_c = i_{12} = \arcsen\left(\frac{V_1}{V_2}\right)$$

Tempo de interseção (t_i)
(intercept time)

$$t_{i_2} = t_2(x=0) = \frac{2h_1 \cos(i_{12})}{V_1}$$

$$h_1 = \frac{V_1 t_{i_2}}{2 \cos(i_{12})}$$



Equações tempo-distância (t(x)) modelo de 2 camadas

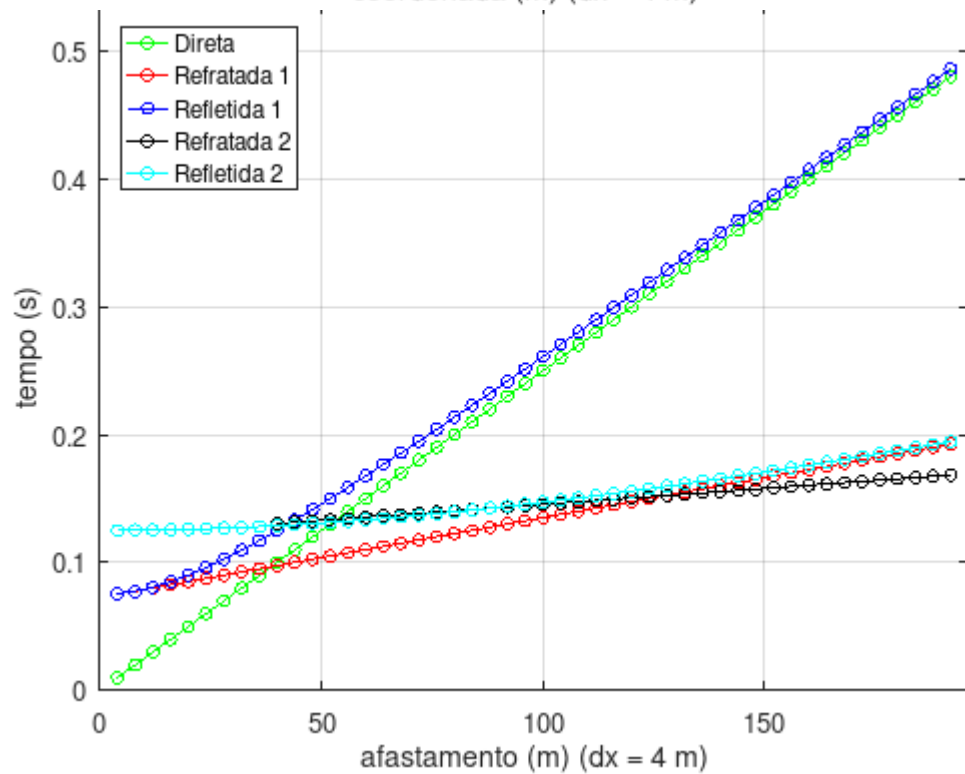
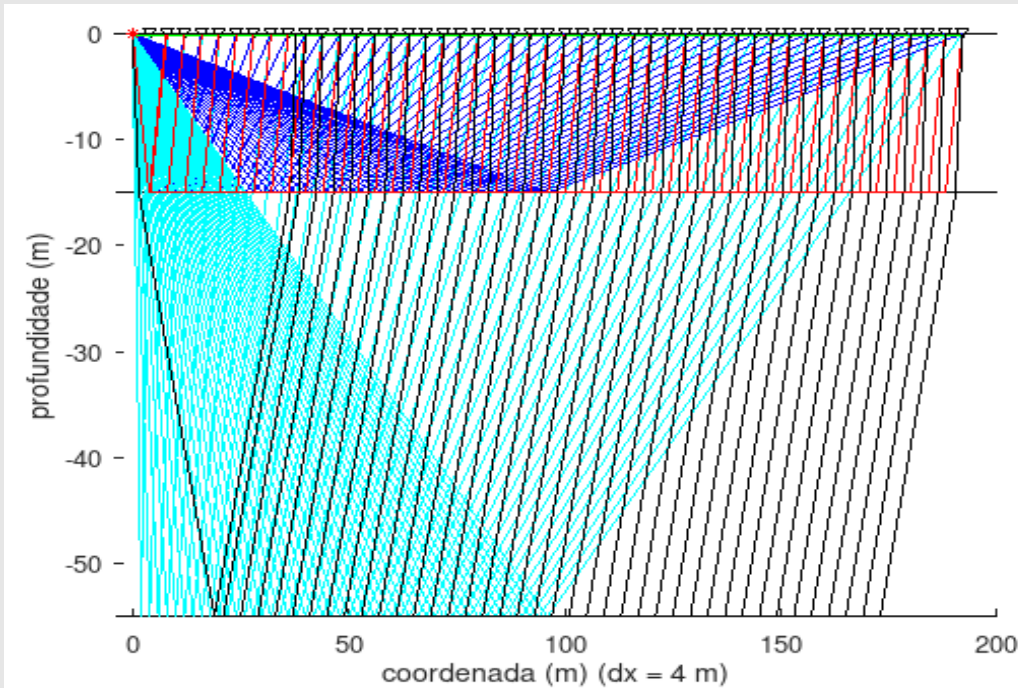
Equação da Onda Refratada
na segunda interface

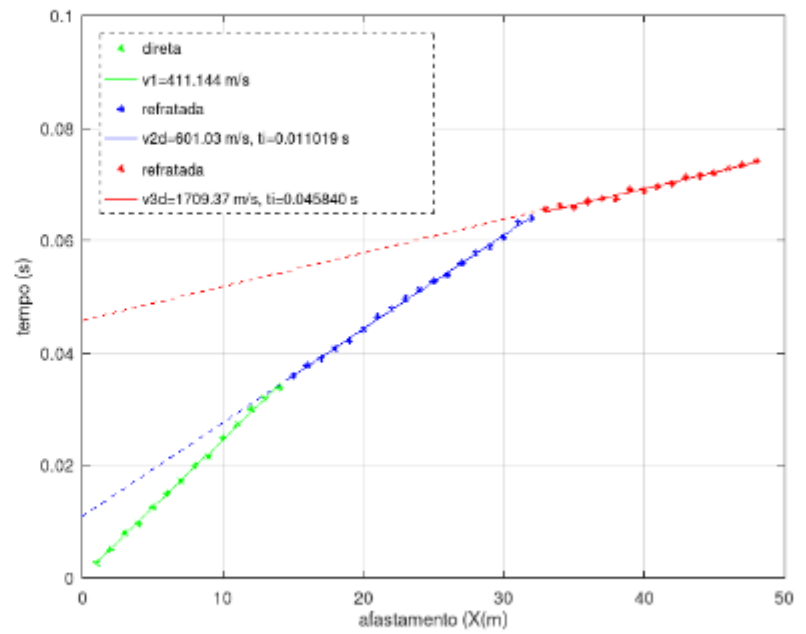
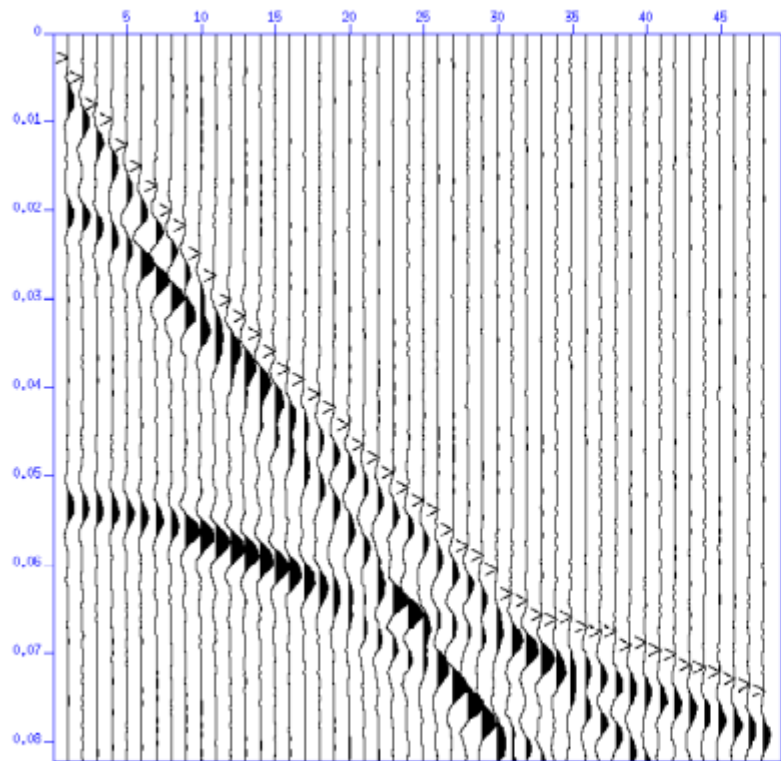
$$t_3 = \frac{X}{V_3} + \frac{2h_1 \cos(i_{13})}{V_1} + \frac{2h_2 \cos(i_{23})}{V_2}$$

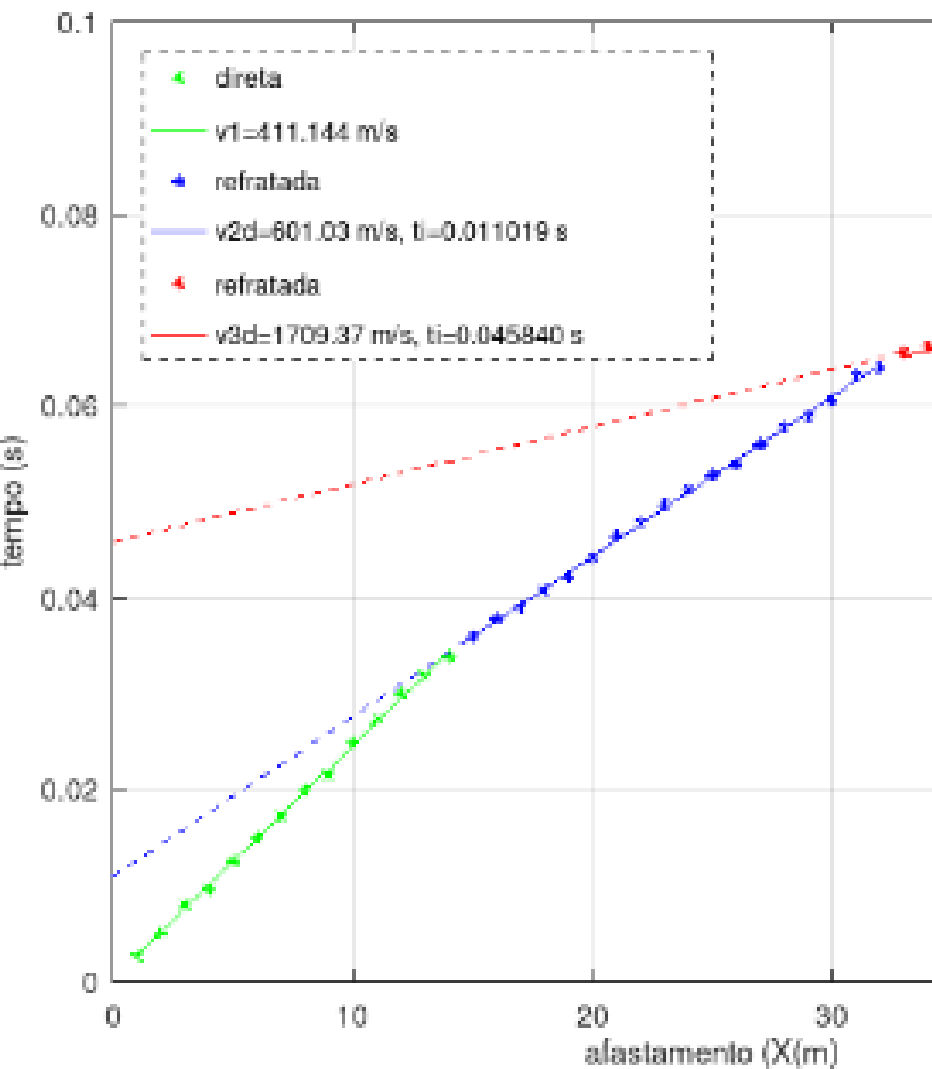
$$i_{ab} = \arcsen\left(\frac{V_a}{V_b}\right)$$

$$t_{i_3} = t_3(x=0) = \frac{2h_1 \cos(i_{13})}{V_1} + \frac{2h_2 \cos(i_{23})}{V_2}$$

$$h_2 = \frac{\left(t_{i_3} - \frac{2h_1 \cos(i_{13})}{V_1}\right) V_2}{2 \cos(i_{23})}$$







$$h_1 = \frac{(t_{i2} V_1)}{2 \cos(i_{12})}$$

$$\left(t_{i3} - \frac{2 h_1 \cos(i_{13})}{V_1} \right) V_2$$

$$h_2 = \frac{\left(t_{i3} - \frac{2 h_1 \cos(i_{13})}{V_1} \right) V_2}{2 \cos(i_{23})}$$

$$v_1 = 411$$

$$v_2 = 601$$

$$v_3 = 1709$$

$$t_{12} = 0.011019$$

$$c_{12} = \cos(i_{12}) = \cos(\arcsen(v_1/v_2)) = 0.72916$$

$$h_1 = (v_1 * t_{i2}) / (2 c_{12}) = 3.1$$

$$\cos(i_{13}) = \cos(\arcsen(v_1/v_3)) = 0.97065$$

$$\cos(i_{23}) = \cos(\arcsen(v_2/v_3)) = 0.93612$$

$$t_{i3} = 0.045840$$

$$c_{13} = \cos(i_{13})$$

$$c_{23} = \cos(i_{23})$$

$$h_2 = \left(t_{i3} - \left(2 * h_1 * c_{13} / v_1 \right) \right) * v_2 / (2 * c_{23})$$

$$h_2 = 10.015$$

Arquivo Editar Exibir Pesquisar Terminal Ajuda

Please contribute if you find this software useful.

For more information, visit <https://www.octave.org/get-involved.html>

Read <https://www.octave.org/bugs.html> to learn how to submit bug reports.

For information about changes from previous versions, type 'news'.

```
octave:1> v1=411
```

```
v1 = 411
```

```
octave:2> v2=601
```

```
v2 = 601
```

```
octave:3> v3=1709
```

```
v3 = 1709
```

```
octave:4> h1=3.1
```

```
h1 = 3.1000
```

```
octave:5> c13=cos( asin(v1/v3))
```

```
c13 = 0.97065
```

```
octave:6> c23=cos( asin(v2/v3))
```

```
c23 = 0.93612
```

```
octave:7> ti3=0.045840
```

```
ti3 = 0.045840
```

```
octave:8> h2=((ti3 - (2*h1*c13/v1))*v2)/(2*c23)
```

```
h2 = 10.015
```

```
octave:9> █
```