

Hyperbolic tangent function "one side"

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Description:

Monotonic increasing function.

Cell size refined at the left tip of the segment.

Namelist :

```
&MESH_FUNCTION_DATA  Function_Name="TANH_ONE_SIDE" ,
                        Number_of_Cells= 32 ,
                        Length= 1.0 ,
                        Left_Cell_Size= 1.0d-03 ,
                        Reverse_Ordering= .false. /
```

Cell size distribution $h(l)$:

L is the Length.

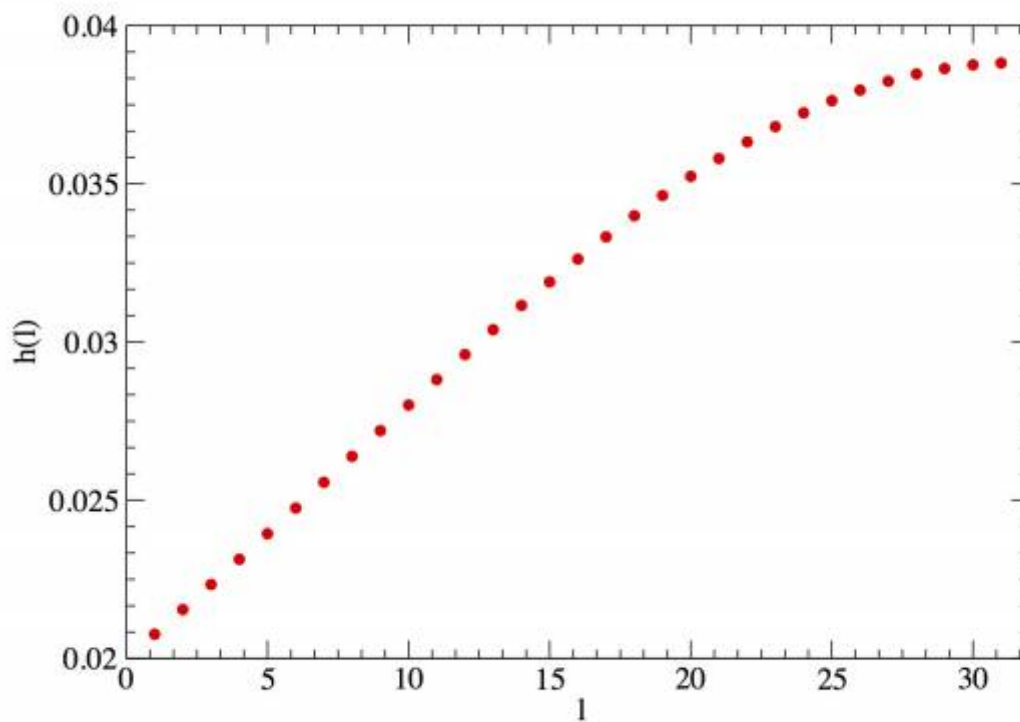
N is the Number_of_Cells.

$h_{\min}$ is the Left_Cell_Size.

$h(l)$ is the cell size.

l is the cell index

$$\begin{aligned} h(1) &= 0 \quad h(l) = L \cdot (1 + \tanh(\frac{1}{2} \\ &\alpha \frac{l-1}{N})) / \tanh(\frac{1}{2} \alpha)), \quad 2 \leq l \leq N \quad h(N+1) = L \cdot \alpha = \frac{L}{N} \\ &\cdot h_{\min} \end{aligned}$$



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