PSTD3Dfun (Calls: 200

Time: 639.806 s)

Generated 16-May-2017 09:05:13 using performance time. function in file C:\Gits\IndiEngiSchola\Matlab\PTSD\PSTD3Dfun.m Copy to new window for comparing multiple runs

Refresh				
Show par	ent functions	~	Show busy lines	Show child fur
Show Coo	de Analyzer resul	lts 🗸	Show file coverage	e Show function
Parents (calling f	unctions)			
Function Name	Function Type	Calls		
ptsd3dtesting	script	2000		

Lines where the most time was spent

Line Number	Code	Calls	Total Time	% Time
<u>24</u>	<pre>pdiffhatx = ifftn(temp1,'symme</pre>	2000	60.640 s	9.5%
<u>36</u>	<pre>udiffhatx = ifftn(temp,'symmet</pre>	2000	59.494 s	9.3%
<u>26</u>	<pre>pdiffhatz = ifftn(temp3,'symme</pre>	2000	59.414 s	9.3%
<u>25</u>	<pre>pdiffhaty = ifftn(temp2,'symme</pre>	2000	59.372 s	9.3%
<u>41</u>	<pre>udiffhaty = ifftn(temp,'symmet</pre>	2000	58.997 s	9.2%
All other lines			341.889 s	53.4%
Totals			639.806 s	100%

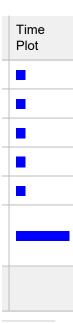
Children (called functions)

No children

0,

nctions

ı listing



Code Analyzer results

No Code Analyzer messages.

Coverage results

Show coverage for parent directory

Total lines in function	43
Non-code lines (comments, blank lines)	20
Code lines (lines that can run)	23
Code lines that did run	23
Code lines that did not run	0
Coverage (did run/can run)	100.00 %

Function listing

Color highlight code according to time

```
time
       Calls
                line
                 11 function[pd, udx, udy, udz] = PSTD3Dfun(pd, udx,
                         diffmatrixX, diffmatrixY, diffmatrixZ,...
                 13
                          PMLdiff, PMLalphau, PMLalphap, PMLconst)
                 14
                         %% Function solves using the PSTD method for
                 15
                         % velocity vector and differentiation impul
                            and returns the solved pressure and veloc
                 16
                 17
                 18 %% Velocity in 3d
51.36
         2000
                 19
                         phat = fftn(pd);
10.26
         2000
                 20
                         temp1 = phat .* diffmatrixX;
                         temp2 = phat .* diffmatrixY;
9.36
         2000
                 21
                         temp3 = phat .* diffmatrixZ;
8.48
         2000
                 22
                 23
60.64
         2000
                 24
                         pdiffhatx = ifftn(temp1, 'symmetric');
59.37
         2000
                 25
                         pdiffhaty = ifftn(temp2, 'symmetric');
59.41
         2000
                 26
                         pdiffhatz = ifftn(temp3,'symmetric');
                 27
                 28 %% Total Velocity
 2.94
         2000
                 29
                         udx = udx .* PMLdiff - PMLalphau .* (pdiffhate)
 2.98
         2000
                 30
                         udy = udy .* PMLdiff - PMLalphau .* (pdiffhate)
                         udz = udz .* PMLdiff - PMLalphau .* (pdiffha
 3.15
         2000
                 31
                 32
                 33 %% Pressure in 3d
49.78
                 34
                         uhat = fftn(udx);
         2000
 8.28
         2000
                 35
                         temp = uhat .* diffmatrixX;
```

```
r a pressure vector,...
lse response in 1 dimension
city vectors

atx./PMLconst);
aty./PMLconst);
atz./PMLconst);
```

```
36
59.49
                    udiffhatx = ifftn(temp,'symmetric');
         2000
                37
                38 %% Pressure in 3d
                   uhat = fftn(udy);
51.69
         2000
                39
                       temp = uhat .* diffmatrixY;
6.13
         2000 _
                40
                       udiffhaty = ifftn(temp,'symmetric');
59.00
         2000 41
                42
                43 %% Pressure in 3d
                       uhat = fftn(udz);
51.67
         2000 44
                       temp = uhat .* diffmatrixZ;
6.29
         2000
               45
58.93
                      udiffhatz = ifftn(temp,'symmetric');
         2000
                46
                47
                48 %% Total Pressure
                      pd = pd .* PMLdiff -(PMLalphap .* (udiffhat;
3.75
         2000 49
         2000 _
               50
                          - (PMLalphap .* (udiffhaty./(PMLconst)))
                          - (PMLalphap .* (udiffhatz./(PMLconst)))
         2000
               51
                52
16.78
         2000 __53 end
```

```
<./(PMLconst)))...
);;</pre>
```