RayTracer>RayTracer.checkIfReflected (Calls: 23374568, Time: 183.052 s)

Generated 27-Mar-2023 12:57:00 using performance time.
Class method in file /Users/lhess/ffr-photon-simulator-matlab/mask-simulator/RayTracer.m
Copy to new window for comparing multiple runs

Parents (calling functions)

Lines that take the most time

Line Number	Code	Calls	Total Time (s)	% Time	Time Plot
105	`distances = obj.distancesToFiber(photon, fiberCoor…`	23374568	63.279	34.6%	
96	`fiberData = quadrant.getFiberData();`	23374568	31.679	17.3%	
109	`reflectedFiberCoords = fiberCoords(distances(:) <=…`	23374568	27.772	15.2%	
99	`fiberCoords = fiberData(:,1:2);`	23374568	23.499	12.8%	
102	`reflectionRadii = fiberData(:,3) + (Defaults.photo…`	23374568	14.003	7.6%	
All other lines			22.821	12.5%	
Totals			183.052	100%	

Children (called functions)

Function Name	Function Type	Calls	Total Time (s)	% Time	Time Plot
RayTracer>RayTracer.distancesToFiber	Class method	23374568	46.534	25.4%	
Quadrant>Quadrant.getFiberData	Class method	23374568	15.275	8.3%	
Self time (built-ins, overhead, etc.)			121.243	66.2%	
Totals			183.052	100%	

Code Analyzer results

No Code Analyzer messages.

Coverage results

Show coverage for parent folder

Total lines in function	20
Non-code lines (comments, blank lines)	13
Code lines (lines that can run)	7
Code lines that did run	7
Code lines that did not run	0
Coverage (did run/can run)	100.00 %

Function listing

```
Time     Calls     Line
                    92          function [hasReflected, reflectedFiberCoords] = checkIfReflected(obj, photon, quadrant)
                    93            % Use vectorization to calculate the distance of the photon to each fiber
                    94            % in the current quadrant. Then, use logical indexing to find a fiber whose
                    95            % reflection radius is greater than or equal to the respective (vectorized) distance.
31.679   2337456   96            fiberData = quadrant.getFiberData();
                    97
                    98            % First two columns of all rows.
23.499   2337456   99            fiberCoords = fiberData(:,1:2);
                   100            % Fiber radius plus half wavelength.
                   101            % TODO: put a getReflRadius(radius) function in the Defaults class.
14.003   2337456   102           reflectionRadii = fiberData(:,3) + (Defaults.photonWavelength / 2);
                   103
                   104            % Calculate the distances.
63.279   2337456   105           distances = obj.distancesToFiber(photon, fiberCoords);
```

```
                106            % The reflected fiber coords are the x and y columns of the nth row,
                107            % where n corresponds to the row of distances whose value is less than
                108            % the reflection radius of the same nth row.
 27.772 23374568 109            reflectedFiberCoords = fiberCoords(distances(:) <= reflectionRadii(:),1:2);
  0.538 23374568 110            hasReflected = ~isempty(reflectedFiberCoords);
  5.948 23374568 111          end
```

Local functions in this file are not included in this listing.