

GammaLib - Bug #3417

Application CPU time is not correct for OpenMP support

10/22/2020 04:27 PM - Knödlseider Jürgen

Status:	Closed	Start date:	10/22/2020
Priority:	Normal	Due date:	
Assigned To:	Knödlseider Jürgen	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:	2.0.0		
Description			
In case of multi-threading the CPU time is not computed correctly.			
For OpenMP, the time needs to be computed using the <code>omp_get_wtime()</code> function, an example is given in the <code>@GObservations::likelihood::eval()</code> method:			
Similar code needs to be implemented in <code>@GApplication::celapse(void)</code> and in <code>GApplication::init_members()</code> .			

History

#1 - 10/22/2020 04:28 PM - Knödlseider Jürgen

```
// Timing measurement
#if defined(G_EVAL_TIMING)
#ifdef _OPENMP
double t_start = omp_get_wtime();
#else
clock_t t_start = clock();
#endif
#endif
...
// Timing measurement
#if defined(G_EVAL_TIMING)
#ifdef _OPENMP
double t_elapse = omp_get_wtime()-t_start;
#else
double t_elapse = (double)(clock() - t_start) / (double)CLOCKS_PER_SEC;
#endif
std::cout << "GObservations::optimizer::eval: CPU usage = "
    << t_elapse << " sec" << std::endl;
#endif
```

#2 - 10/22/2020 06:03 PM - Knödlseider Jürgen

- Status changed from New to Feedback
- Assigned To set to Knödlseider Jürgen

- % Done changed from 0 to 90

I implemented the change and merged the code into devel. It remains to be seen on a system that actually uses OpenMP whether the CPU time is not computed corrected. I therefore keep the issue status on Feedback.

#3 - 11/08/2020 06:32 PM - Knödlseider Jürgen

- Status changed from Feedback to Closed

- % Done changed from 90 to 100

The times are now correct.