

BornAgain - Feature #1927

Core: inter-particle: InterferenceFunction2DParaCrystal::interference1D is slow

18 Dec 2017 14:58 - pospelov

Status:	Backlog	Start date:	18 Dec 2017
Priority:	Normal	Due date:	
Assignee:		% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:			
Description			
Reasoning: Simulation using interference function of 2D para crystal is quite popular among users, however the performance is quite poor. For the moment 90% of execution time of standard GUI example "Interference function of 2D para crystal" is spend inside InterferenceFunction2DParaCrystal::interference1D method. The most of the time where is inside line 237: tmp = std::pow(fp, n); Attempt #1: Replacing tmp with tmp=0.0 makes simulation 5 times faster (but of course all para2D related functional tests fails with significant difference). Attempt #2: Replacement of std::pow(fp, n) with std::exp(n*std::log(fp)) only makes simulation 50% slower.			

History

#1 - 18 Sep 2020 19:08 - wuttke

- Subject changed from Investigate performance of InterferenceFunction2DParaCrystal::interference1D method to Core math: InterferenceFunction2DParaCrystal::interference1D is slow
- Status changed from New to Backlog
- Priority changed from Low to Normal

#2 - 19 Sep 2020 10:19 - wuttke

- Subject changed from Core math: InterferenceFunction2DParaCrystal::interference1D is slow to Core: inter-particle: InterferenceFunction2DParaCrystal::interference1D is slow