

## BornAgain - Feature #2436

### Core API: MultiLayer: redesign to support repetitions.

06 Apr 2020 11:36 - pospelov

<b>Status:</b> Backlog	<b>Start date:</b> 06 Apr 2020
<b>Priority:</b> Normal	<b>Due date:</b>
<b>Assignee:</b>	<b>% Done:</b> 0%
<b>Category:</b>	<b>Estimated time:</b> 0.00 hour
<b>Target version:</b>	
<b>Description</b> New Reflectometry GUI prototype allows creating convenience multi-layer structures with repeating internal content (task: repeat bi-layer n. times). However, we do not have corresponding functionality on the Core side.  Within this issue, investigate Refnx for inspiration, and suggest new MultiLayer API.	
<b>Related issues:</b> Related to BornAgain - Feature #2367: GUI: Sample builder: "Layers" section i... <b>Backlog</b> <b>17 May 2019</b>	

#### History

##### #1 - 21 Apr 2020 15:03 - rbeerwerth

- File *RepeatingLayersAPI.pdf* added

##### #3 - 21 Apr 2020 15:04 - rbeerwerth

- Private changed from No to Yes

##### #4 - 21 Apr 2020 15:04 - rbeerwerth

- Private changed from Yes to No

##### #5 - 22 Apr 2020 11:08 - pospelov

I vaguely remember Refnx also has a way to add multiple slicing with material gradient. Did you see something like that? We probably have to take this into consideration too, while designing API. I mean, no need to implement it simultaneously with the LayerStack (or whatever will be on its place), but the design should allow easily to have it in the future.

##### #6 - 13 May 2020 10:37 - pospelov

- Status changed from Sprint to Backlog

- Target version deleted (Sprint 43)

##### #7 - 15 May 2020 15:07 - rbeerwerth

- File deleted (*RepeatingLayersAPI.pdf*)

##### #8 - 15 May 2020 15:10 - rbeerwerth

- File *RepeatingLayersAPI.pdf* added

I looked into the API for Slicing, which is also used to calculate arbitrary interface profiles. I updated the pdf, even though these two issues are imo not too related, and would probably be mostly independent. Implementing material profiles and slicing would interfere with the existing slicing machinery though.

Or do you mean something else by "material gradient"?

##### #9 - 18 Sep 2020 23:29 - wuttke

- Subject changed from Design new API for MultiLayer with repetitions. to Core API: MultiLayer: redesign to support repetitions.

**#10 - 18 Sep 2020 23:30 - wuttke**

- Related to Feature #2367: GUI: Sample builder: "Layers" section incorrectly suggests choice between "MultiLayer" and "Layer" added

## Files

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RepeatingLayersAPI.pdf	126 KB	15 May 2020	rbeerwerth
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