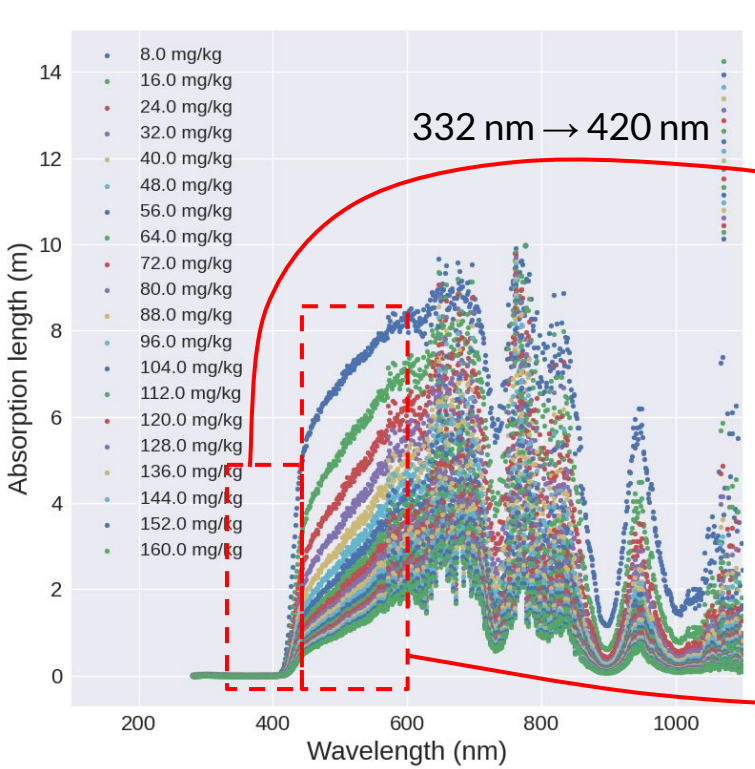
Geometry and DF optimization for FD2-XA

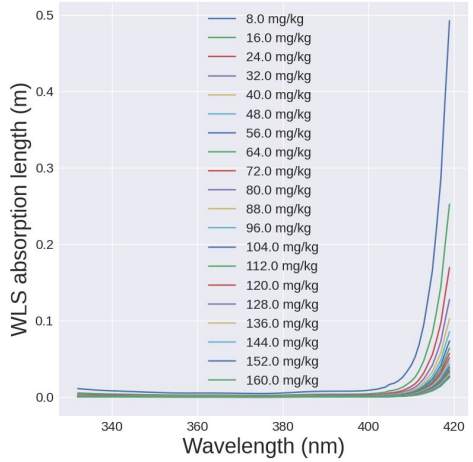
Julio Ureña, Justo Martín-Albo, Anselmo Cervera

Photon Collectors WG - 11 July 2023

Separation for bulk absorption processes (Deprecated)

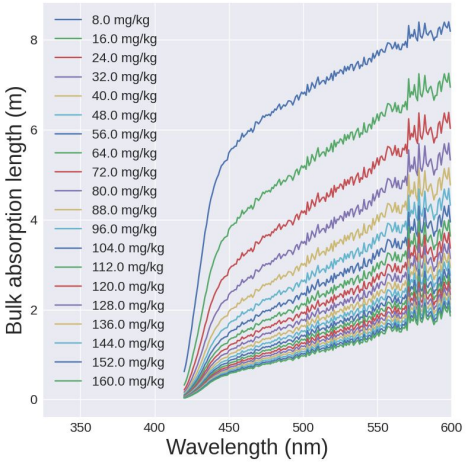


332 nm → 420 nm



Data shared by MiB

420 nm → 600 nm



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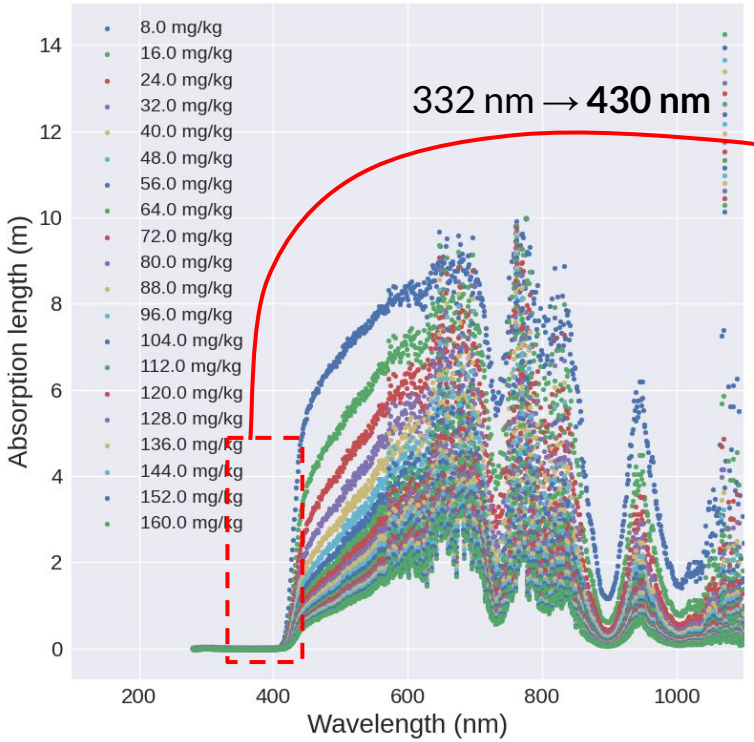
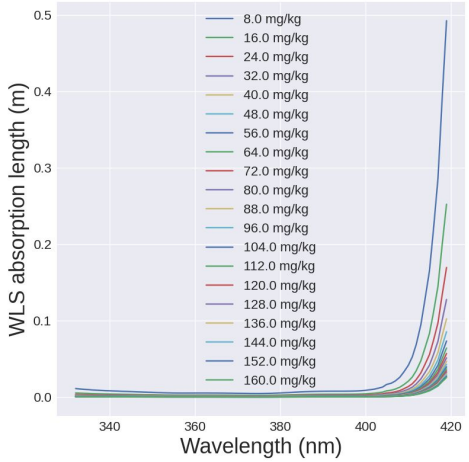
Data for WLS absorption processes





Data shared by MiB

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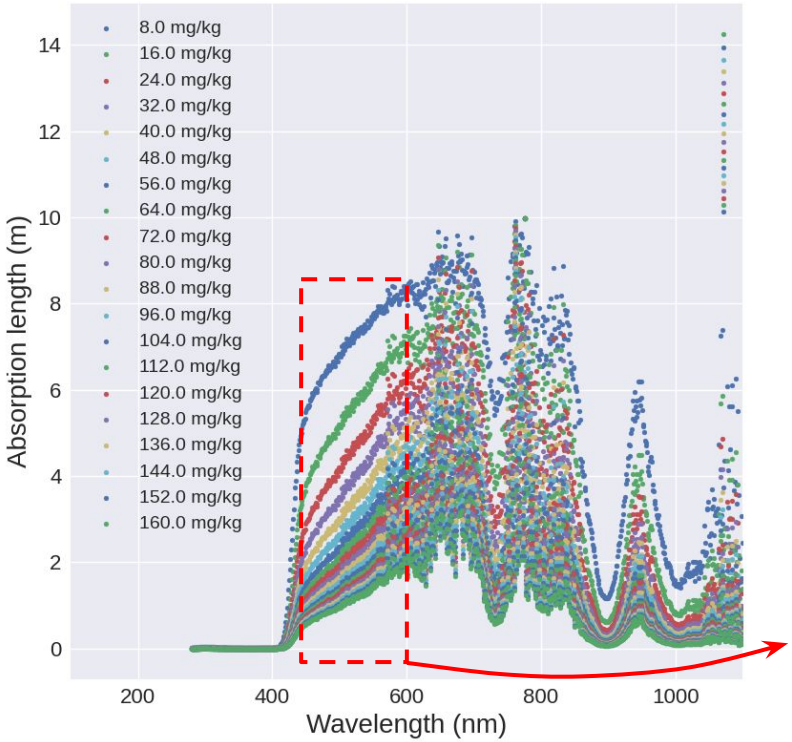
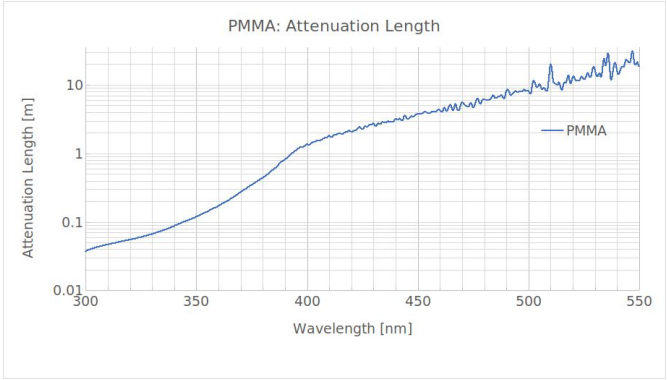
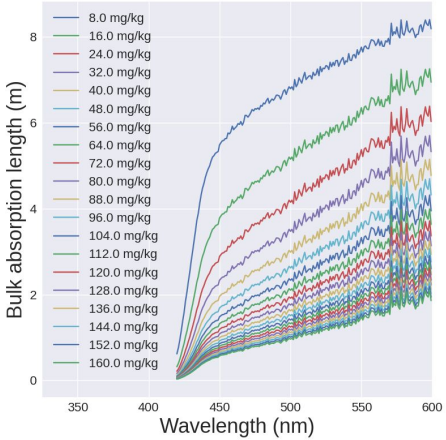
Data for bulk absorption processes







Data shared by MiB

335 → 430 from pure-PMMA data

430 nm → 600 nm from dyed-PMMA data

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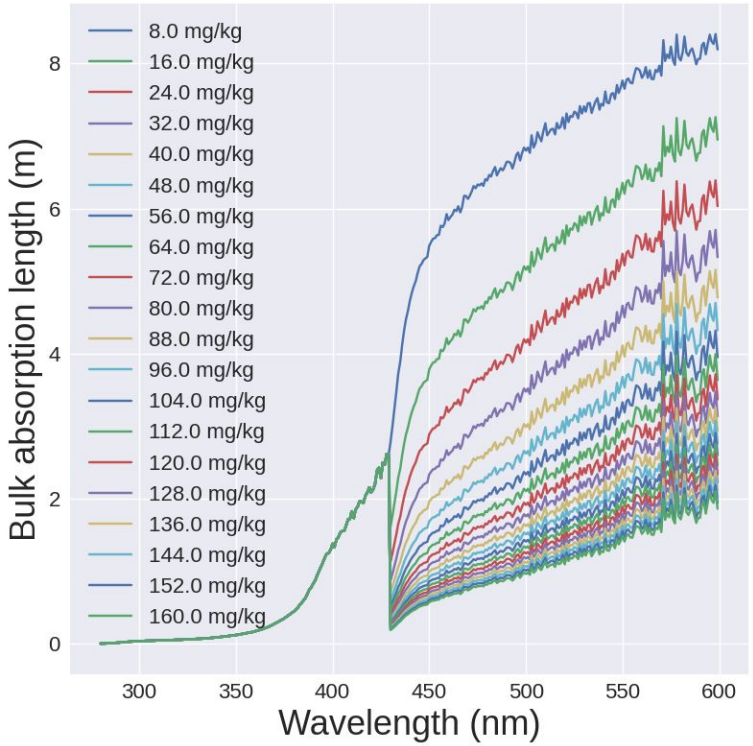
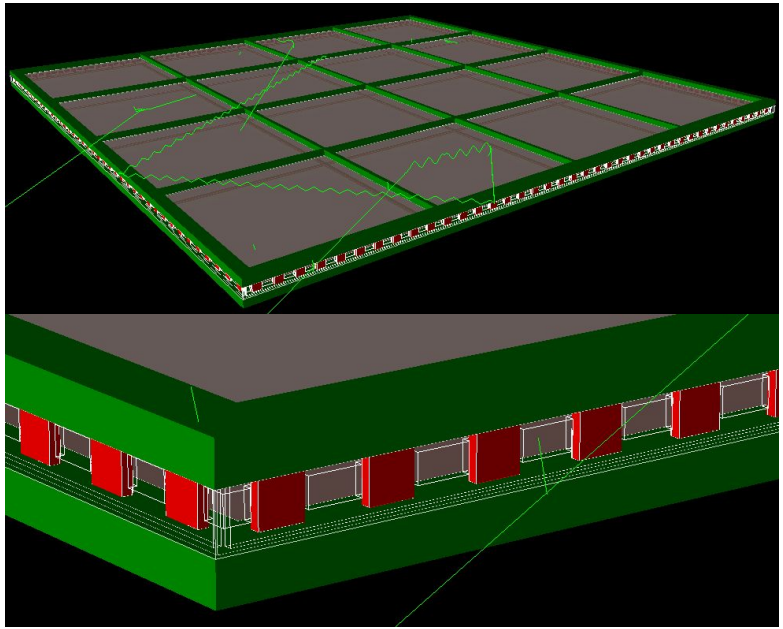
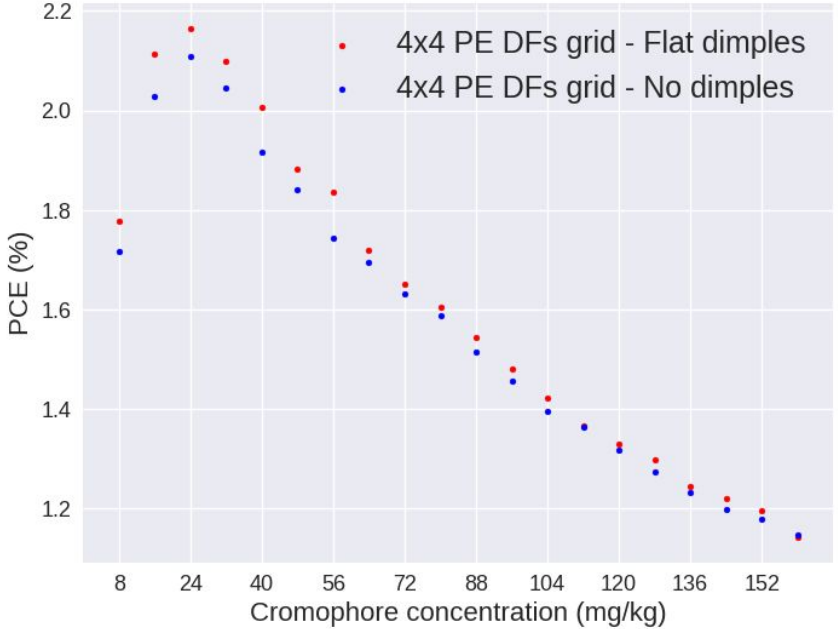
Data for bulk absorption processes

Data shared by MiB



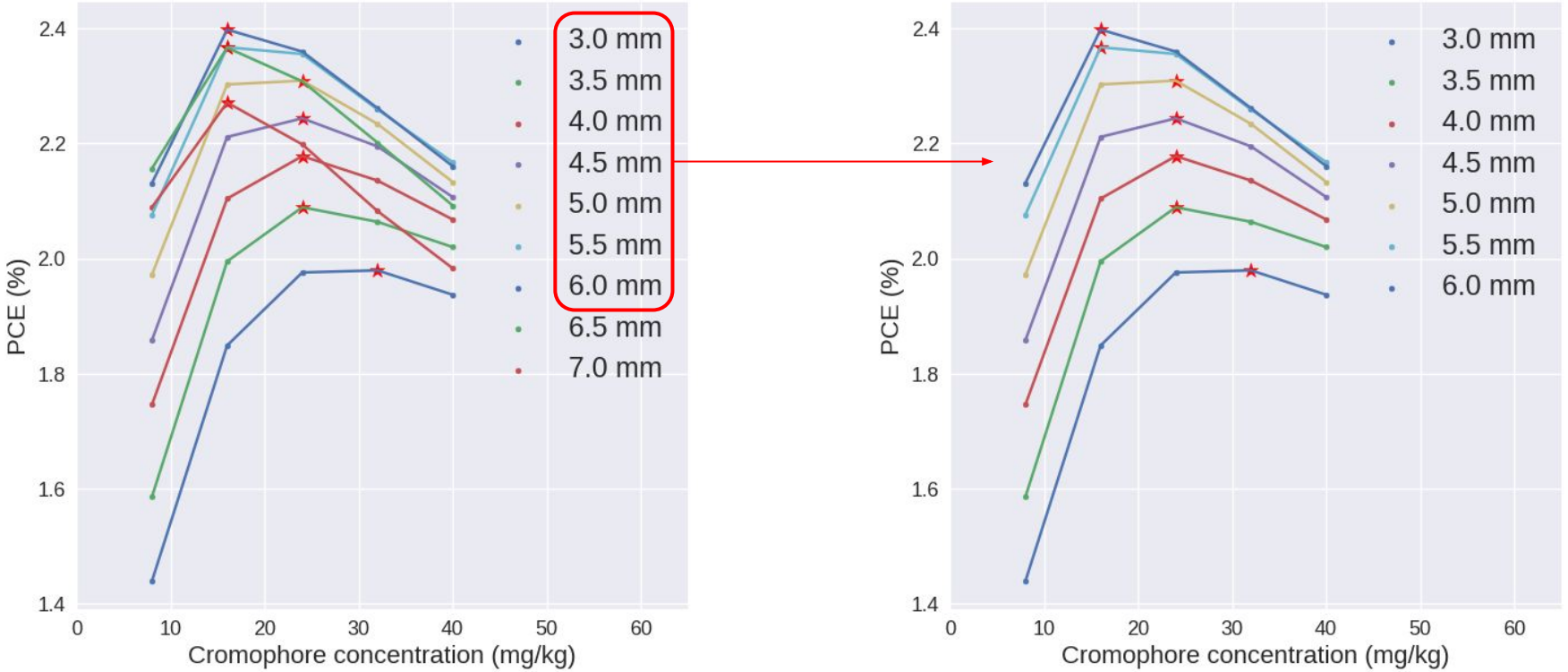
Previous results





24 mg/kg seem to be the optimal WLS dye concentration in PMMA up to the simulation

New results: WLS dye concentration and plate thickness optimization



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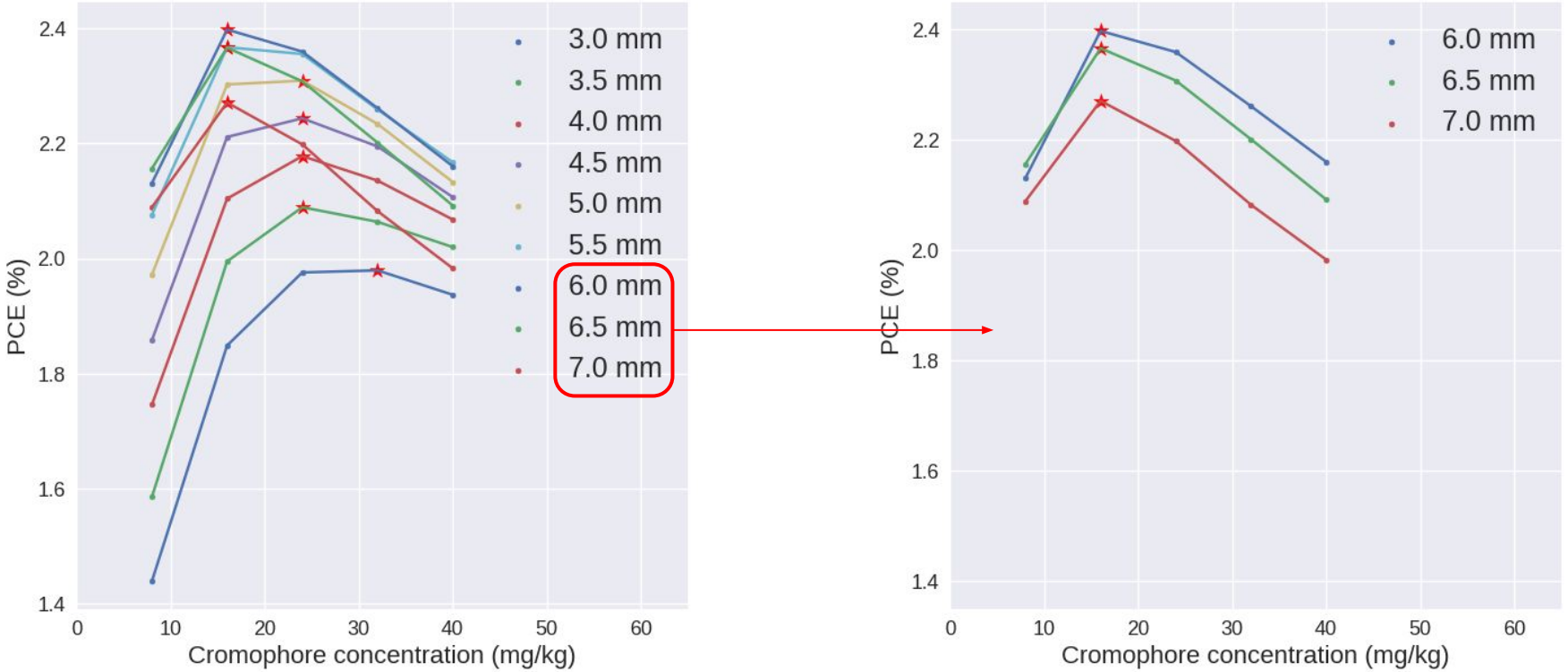
New results: WLS dye concentration and plate thickness optimization



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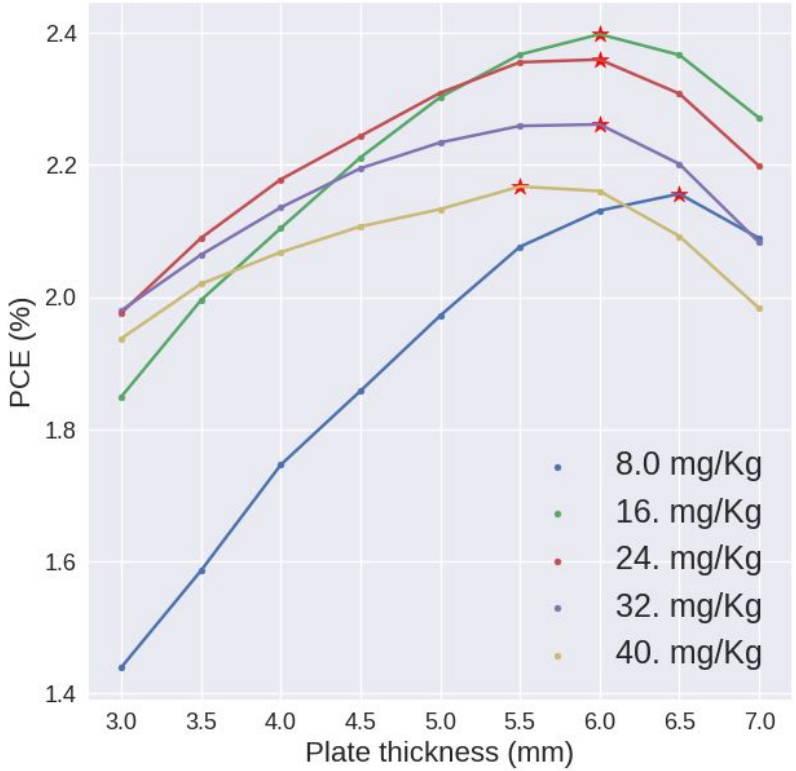
New results: WLS dye concentration and plate thickness optimization



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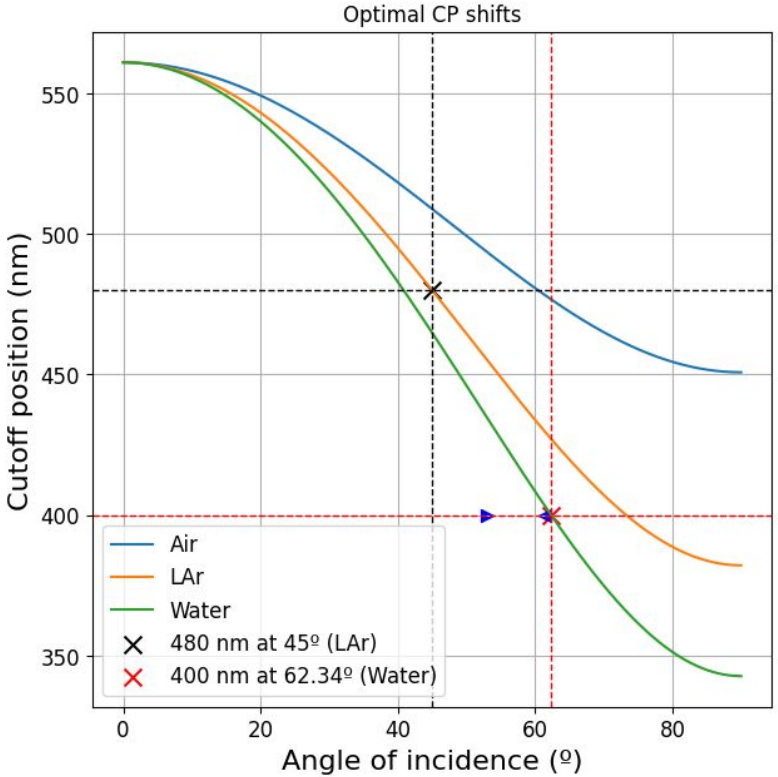
DF optimization



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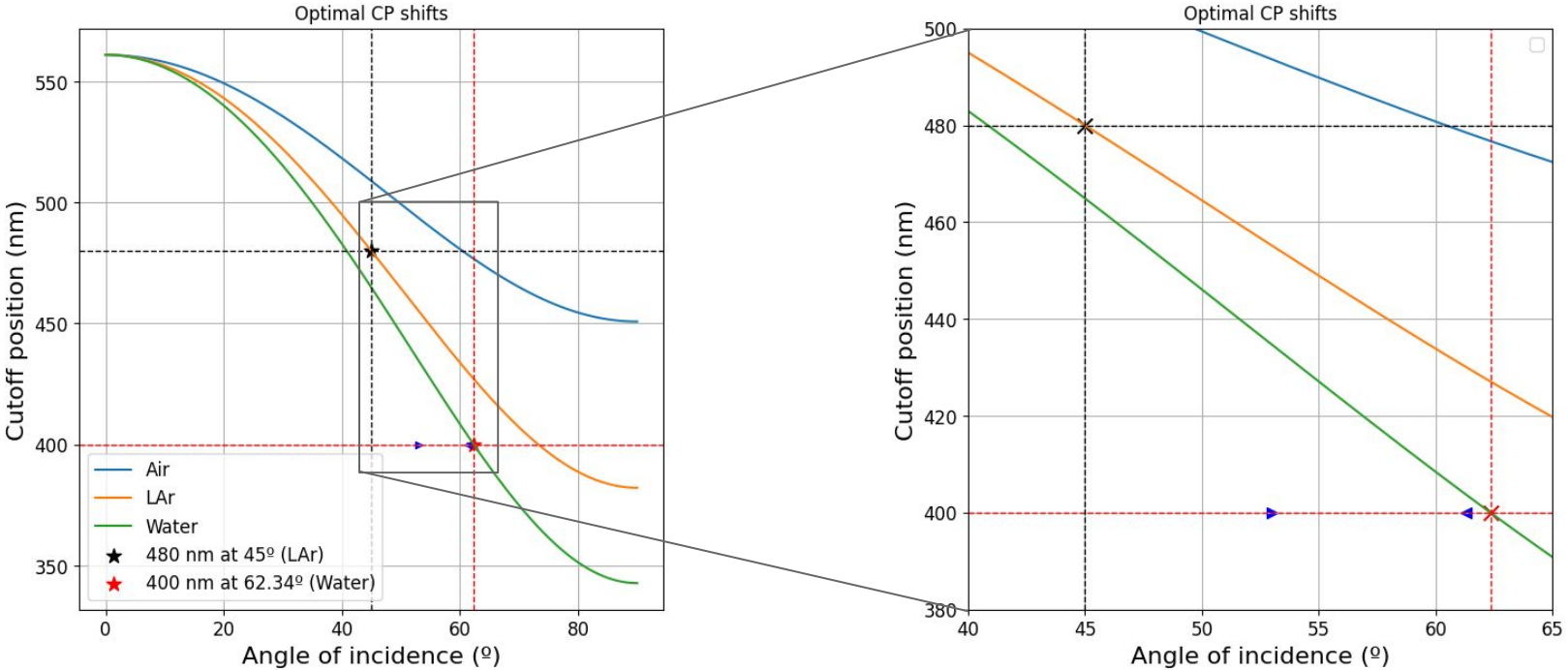
DF optimization



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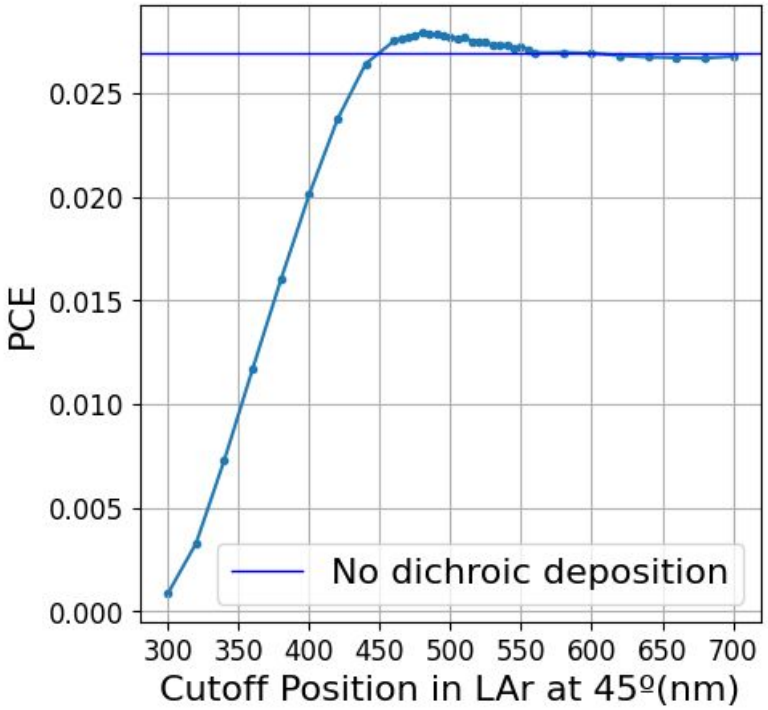
BACKUP


PCE
0.025
0.020
0.015
0.010
0.005
0.000
No dichroic deposition
300 350 400 450 500 550 600 650 700
Cutoff Position in LAr at 45º(nm)