

AE-515: Printing of 3rd advanced irradiation setup V1.0

Date: 2025-07-28
Tags: AE CAD Autodesk Inventor Additive manufacturing 3D print photoreactor Prusa Slicer
Category: Photoreactor
Status: Done
Created by: Alexander Eith

Literature/reference experiments

Literature	/
Reproduction	/
Similar experiments	Photoreactor - AE-367: Setup of advanced irradiation setup V1.0

Reagents

Name	CAS Number / Experiment Number	Inventory number	Amount [mmol]	Equivalents	Mass _{theo} [mg]	Mass _{exp} [mg]	Molar mass [g/mol]	Density (g/ml)	Volume [ml]
PLA filament (Primavalue PLA+, filamentdiameter: 1.75 mm, colour: black)	26680-10-4	/	/	/	/	ca. 1 kg	/	/	/

Printing

Date	Time	Part	CAD file	STL file
21.07	13:00	Aperture LED	2024_08_22_LED_blende.ipt	2024_08_22_LED_blende.stl
21.07	13:00	Aperture dummy	2024_08_20_dummy_aperture.ipt	2024_08_20_dummy_aperture.stl
24.07	17:00	Side wall left and right	2024_09_24_Reaktorkorpus_linksrechts.ipt	2024_09_24_Reaktorkorpus_linksrechts.stl
30.07	17:00	Bottom wall	2024_08_27_Reaktorkorpus_unten.ipt	2024_08_27_Reaktorkorpus_unten.stl
04.08	16:00	Back wall	2024_08_21_Reaktorkorpus_hinten.ipt	2024_08_21_Reaktorkorpus_hinten.stl
05.08	13:30	Aperture beam combiner HP	2024_08_26_beam_combiner_blende.ipt	2024_08_22_beam_combiner_blende.stl
05.08	13:30	Aperture beam combiner UHP	2024_09_13_beam_combiner_blende_UHP_LED.ipt	2024_09_13_beam_combiner_blende_UHP_LED.stl
05.08	13:30	Stabilizer korpus	2021_03_30_Stabilisator_Korpus.ipt	2021_03_30_Stabilisator_Korpus.stl
06.08	15:00	Aperture double walled beaker	2024_08_26_Double_walled_beaker_recess_21cm.ipt	2024_08_26_Double_walled_beaker_recess_21cm.stl
07.08	14:00	Holder disk NMR	2024_08_28_Holder_disk_NMR.ipt	2024_08_28_Holder_disk_NMR_tube.stl
07.08	14:00	Holder disk GL14	2024_08_28_Holder_disk_GL14.ipt	2024_08_28_Holder_disk_GL14.stl
07.08	14:00	Holder NMR	2024_08_23_Holder_NMR_tube.ipt	2024_08_23_Holder_NMR_tube.stl
07.08	14:00	Holder GC vial	2024_08_23_Holder_GC_vial.ipt	2024_08_23_Holder_GC_vial.stl
07.08	14:00	Holder GL25	2024_08_23_Holder_GL25.ipt	2024_08_23_Holder_GL25.stl
07.08	14:00	Holder NS14	2024_08_28_Holder_NS14.ipt	2024_08_28_Holder_NS14.stl
07.08	14:00	Holder GL25	2024_08_28_Holder_GL25.ipt	2024_08_28_Holder_GL25.stl
07.08	14:00	Holder disk NS14	2024_08_28_Holder_disk_NS14.ipt	2024_08_28_Holder_disk_NS14.stl

Descriptiton of assambly

Step	foto
3 mm nuts according to DIN439 (8 in total) were placed in the holes in the side walls (push the nuts as far down as possible using a small screw driver or something similar)	add nuts.jpg
The back part was screwed to the side walls using M3/25 screws according to DIN912 using a fitting Allen key	add screws.jpg side walls with back wall.jpg
Add stabilizer on bottom of side walls	add stabilizer.jpg
The bottom part was slided in - make sure to put it all the way in	add bottom wall.jpg
Add top wall	add aperture for double walled beaker.jpg

Linked experiment

Photoreactor - [AE-367: Setup of advanced irradiation setup V1.0](#)

Attached files

2024_08_23_Holder_NMR_tube.stl

sha256: 8ed4f95a899b52b161994d9a408ed8a0616fdb21b16419a962e7772d26c0f0c1

2024_08_28_Holer_GL25.stl

sha256: 9c535955d974cd0c9fca4381441d29bd5530b77f0f5fef6acb6c608f0a1d1b32

2024_08_28_Holder_disk_NMR_tube.stl

sha256: 4f4265f251dd0eab94d71816f70529157d1728a5df97c28a62bdf39aad4d5652

2024_08_28_Holder_disk_GL14.stl

sha256: 836a5c33bbc17eebb5ec6b0fb2c82cd6d192fd6f9c206b29dfed8a4f651014c2

2024_08_28_Holder_disk_NS14.stl

sha256: 36afc74e1ff6e7f7aa2b0d13a8061b8ac632060e0bb0458093c097d7cff9f4da

2024_08_23_Holder_GL25.stl

sha256: 793360ed175c425994673b9b875a7f0edcf6a0dd2b8c8b6f087153538ead7e18

2024_08_23_Holder_GC_vial.stl

sha256: 0d0b5f7f350a6ecac37a16da66dae5d6eb153d9223746091ff2306db485ad815

2024_08_28_Holder_NS14.stl

sha256: 5249e766216219ac77cc46ec06f183db724eab09939c88669bc2abfc689ad71f

2024_08_28_Holder_disk_GL14.ckpt

sha256: 2d22610a77971f7f15b3898f50e0b1d88520c2810e7b3a2e2977fde3f14fc2cb

2024_08_28_Holder_GL25.ckpt

sha256: f21f34dfc4ea1ae2f8b1fb2e14e5e4904052ff48c9d33b7c397f092963296833

2024_08_28_Holder_NS14.ckpt

sha256: 38b4c4975f6b6a51e8d1b09ce04512d8a5cd2a138e51459d2d7f6de9d58c8966

2024_08_23_Holder_GL25.ckpt

sha256: 18e96e831f62c21f68c5f97792a148770bace5d6b1f7e798825e6b8fa352ab32

2024_08_23_Holder_GC_vial.ckpt

sha256: b969214d82bb908bdbeed17337207c1b437b950e5ba64b7629779f29fa2b66b5

2024_08_23_Holder_NMR_tube.ckpt

sha256: 4b5907b7fd5d97829069b4dae9edb2170776b0745aab2c448ef94cb5ec457c08

2024_08_28_Holder_disk_NS14.ckpt

sha256: 729cfbcaa2b28d482381d4208226857a277a293ba839e24448813f614b8c4bf0

2024_08_28_Holder_disk_NMR.ckpt

sha256: 5673e174839c1ed33f02c07fbf69ed274d1175968e1c8e3c38bb2649a79fbdcf

add-aperture-for-double-walled-beaker.jpg

sha256: affba42fceeb3b116daebfd2c4d76954cfbc778974cc6493487479148a2f609e



add-bottom-wall.jpg

sha256: e46f92a8dca17175cfde7b4a14d9f2f05c7223b8694e6bfc160859b4e4e0bd14



add-screws.jpg

sha256: fc2689f7749ffd3284f9f7a345e12c7183f9cacee645c34a7a94341440a70491



add-stabilizer.jpg

sha256: 9acbc9503300dd37ec45dd1544de359d2f367d47297d6b013cc2677d1de462eb



side-walls-with-back-wall.jpg

sha256: ff6d705f10a766c3268817bb506fe5737e456b223d01c6ebaba1ab0d56de2b91



add-nuts.jpg

sha256: 6f5fd66e8cfef275e9706c5bdc3fafbaa36ea2a673bef7e3d0e0473653105574



2024_08_26_Double_walled_beaker_recess_21cm.ckpt

sha256: 190d56c0935334d88398823d5559f26d740d1c60c64a23416b0c8ea1ee4a7f67

2024_08_26_Double_walled_beaker_recess_21cm.stl

sha256: f653ac3bf19575692c5201aad8509c7a64a457cd4e257dbc337de9346af99401

2024_08_20_Double_walled_beaker_with_recess_3cm.ckpt

sha256: 7942c9b71321bef53121e8addb8c8755c89b68e8ab250e0d232fc466c511f263

2024_08_22_beam_combiner_blenede.stl

sha256: 4a8c51f972701ab6386d5f65e9df494b2333ac118d6d9038005e91631840afcd

2024_08_21_Reaktorkorpus_hinten.stl

sha256: bed51b07876b2ae6a065658cadf6e3edcd31b8824d9c8882e25ab81d4195399f

2021_03_30_Stabilisator_Korpus.stl

sha256: 4f291c7880d6d1c6d7e9965cacc9ed20343b1add8aa1366aa312ea44bad25ff4

2024_09_13_beam_combiner_blende_UHP_LED.stl
sha256: 3a4636e5b7fcdd125d400830193dc4a4adaa2b98f0f4727dab8acee67513ee71

2024_08_20_dummy_aperture.stl
sha256: eba7867be57f153c08b9e561fe320a6f26c079592aae41beb15907a4d4aa0f2c

2024_08_22_LED_blende.stl
sha256: 8f943ffade33496f2b34772fb4c79dfb7a3c51010e567da6bc189153bf9dc63a

2021_03_30_Stabilisator_Korpus.ckpt
sha256: 2f4ab13e1289430c2c8b7664c4bec3a99dd223c2d9990381ca4786ff5740d2ff

22024_08_21_Reaktorkorpus_hinten.ckpt
sha256: 205275d347923d225fbe1b2abba5759f427e23d1cbc7395feac81e10bb024630

2024_08_20_dummy_aperture.ckpt
sha256: 2ca80d8dae62238479fec4f36ee80d183d3cbff6eae762c2018f12051301dad

2024_08_22_LED_blende.ckpt
sha256: 2fed11412c646467592850b7dde0ff49a42352942727e037ffda8fd1e329cd45

2024_08_26_beam_combiner_blende.ckpt
sha256: f64505e2a17f729625cd0fc054e22c94c629b112031642a738b661a35e19dff

2024_08_26_Double_walled_beaker_recess_21cm.ckpt
sha256: 190d56c0935334d88398823d5559f26d740d1c60c64a23416b0c8ea1ee4a7f67

2024_09_13_beam_combiner_blende_UHP_LED.ckpt
sha256: ad1f6677599461dec52643c52c031010e2bc5090663f55ae0ffedb05d5fb6b26

2024_08_27_Reaktorkorpus_unten.stl
sha256: 4b4bc81ec19e61618814ab7168c14fac0f6965e652f5d6fe5ba8d9f99771fbe0

2024_08_27_Reaktorkorpus_unten.ckpt
sha256: 3d48b51a7f81a60c12d844a80c619efa9d892d15cd7e062cdcff36249b2e892d

2024_09_24_Reaktorkorpus_linksrechts.stl
sha256: 33d294fd516b660bee2915cba87421daed4a82a969532a03b32cf46074838d8

2024_09_24_Reaktorkorpus_linksrechts.ckpt
sha256: 1db846b869681e371ff68cedbd585e5666ef035c7e0360c1ed21b2ec09ed0461



Unique eLabID: 20250728-dd69e4b1dfb08b7073e8ec19e8ce2487681b8c5f
Link: <https://elab.water-splitting.org/experiments.php?mode=view&id=2525>