

Determining power output in the Advanced irradiation setup V1.0 I

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Tags: Radiation AE 3D print Power measurement Irradiation setup advanced irr ad setup

Category: Protocol

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Goal

Determination of needed setting of power source for desired power output

Prerequisites and preparation

Equipment - [Advanced power measurment setup V1.0 I](#)

Power meter

Desired light source

Power source

[Photoreactor - AE-594: Design and printing of 2nd generation of holder for power measurment](#)

Steps

Step number	Step description
1	Install the aperture for the sensor of the power meter (Photoreactor - AE-594: Design and printing of 2nd generation of holder for power measurment)
2	Install the aperture for the desired LED
3	Install the desired LED (use the beamcombiner if desired) - make sure that the LED is aligned properly
3a	An proper alignment is achieved by placing the LED on the lapjack and adjust the hight of the labjack till the LED can be slighed into the aperture without lifting the LED or the setup. Do not significantly move the LED or setup
4	Install the sensor of the power meter in the aperture, place it in porperly
4a	An proper positioning is reached by placing it with the sensor area to wards the LED, make sure to push it all the way in. There should be no significant play into any direction, if it is the case infrom the responsible person for Equipment - Advanced power measurment setup V1.0 I. positioning of power sensor in holder.jpg The cable of the sensor is moved out of the setup towards the LEDs.
5	Adjust the power setting(s) to the desired value. When using a beam combiner adjust each LED speratly and check in the end if the sum of both LEDs equalls the reading of the power meter, when both LEDs are tunred on

5a	For high power settings: above 500 mW: keep the irradiation time as short as possible (below 1 min, if you need longer allow the setup to cool down for several minutes before continuing above 200 mW: avoid prolonged times (more than 5 min)
6	Remove the power meter when you are done

Linked experiments

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

Photoreactor - [AE-594: Design and printing of 2nd generation of holder for power measurement](#)

Linked resources

Archived - [Determining power output in the Advanced irradiation setup V1.0](#)

Equipment - [Advanced power measurement setup V1.0 I](#)

Attached file

positioning of power sensor in holder.jpg

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