MCP

Microchannel Plate PMT (MCP)

A microchannel plate PMT is a sensitive photon detector. It consists of an array of glass capillaries (10-25 µm inner diameter) that are coated on the inside with a electron-emissive material. The capillaries are biased at a high voltage. Like in the PMT, an electron that strikes the inside wall of one of the capillaries creates an avalanche of secondary electrons. This cascading effect creates a gain of 103 to 106 and produces a current pulse at the output. The timing jitter of MCPs is sufficiently small to perform time-resolved photon counting on a sub-nanosecond- scale, usually outperforming PMTs. Good but also expensive MCPs can achieve timing uncertainties as low as 20ps. Microchannel plates are also used as an intensifier for low-intensity light detection with array detectors.

Copyright of this document belongs to PicoQuant GmbH. No parts of it may be reproduced, translated or transferred to third parties without written permission of PicoQuant GmbH. All information given here is reliable to our best knowledge. However, no responsibility is assumed for possible inaccuraciesor omissions. Specifi cations and external appearances are subject to change without notice.

PicoQuant GmbH
Rudower Chaussee 29 (IGZ)
12489 Berlin
Germany

P +49-(0)30-1208820-89
F +49-(0)30-1208820-90
info@picoquant.com
www.picoquant.com