

# A BEAM SPLITTER AND DELAY LINE FOR AUTOCORRELATION AND PUMP-PROBE EXPERIMENTS AT SOFT X-RAY FELS

R. Mitzner, Universitaet Muenster, Physikalisches Institut, Muenster;  
W. Eberhardt, M. Neeb, T. Noll, BESSY GmbH, Berlin;  
M. Rutkowski, H. Zacharias, Universitaet Muenster, Physikalisches Institut, Muenster

## Abstract

In order to do jitter-free X-ray pump and probe experiments at the Free Electron Laser in Hamburg (FLASH) as well as to characterize the temporal structure of its high power pulses a grazing incidence autocorrelator has been designed and constructed. Based on wavefront beam splitting the apparatus covers the XUV energy range up to photon energies of 200 eV providing a total delay of about 25 ps with femtosecond time resolution. In this contribution a description of the main design principles as well as first functional tests with visible and near infrared lasers will be presented.

**PAPER NOT  
AVAILABLE**