Stretched Wire Alignment System
@ VUV FEL

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Granite plate with quadrupoles, reference sockets and Fögale sensors
Setup of Stretched Wire Alignment System

20 sensors at 7 pillars

**Fogale WPS Sensors**

**Undulator**

**Wire**

**Quadrupoles**

**Granite Plate**

**WL** = wall left

**WR** = wall right

**G** = gangway
**Absolute alignment** possible due to Wire Finder plus levelling instrument.

Permanent relative measurements with Fogale sensors.
Geodesy @ DESY

Installation

Initial Alignment

Results

Fourier Analysis

Correlation

Wire finder and Fogale sensor

Wire Finder plus levelling instrument for absolute alignment

Fogale sensors for permanent relative measurements

http://geo.desy.de
Installation
Alignment
Results
Fourier Analysis
Correlation
Fourier-Transformation Platte 1 (203m): WLX, WLZ
Fourier-Transformation Platte 1: WRX, WRZ
Fourier-Transformation Platte 6 (229m): WLX, WLZ
Fourier-Transformation Platte 6: WRX, WRZ
Kreuzkorrelation Platte 1: WLX - WRX

Next Steps:

- calculate more correlations with other machine parameters
- replace or repair defect sensors
THNX!
for your attention