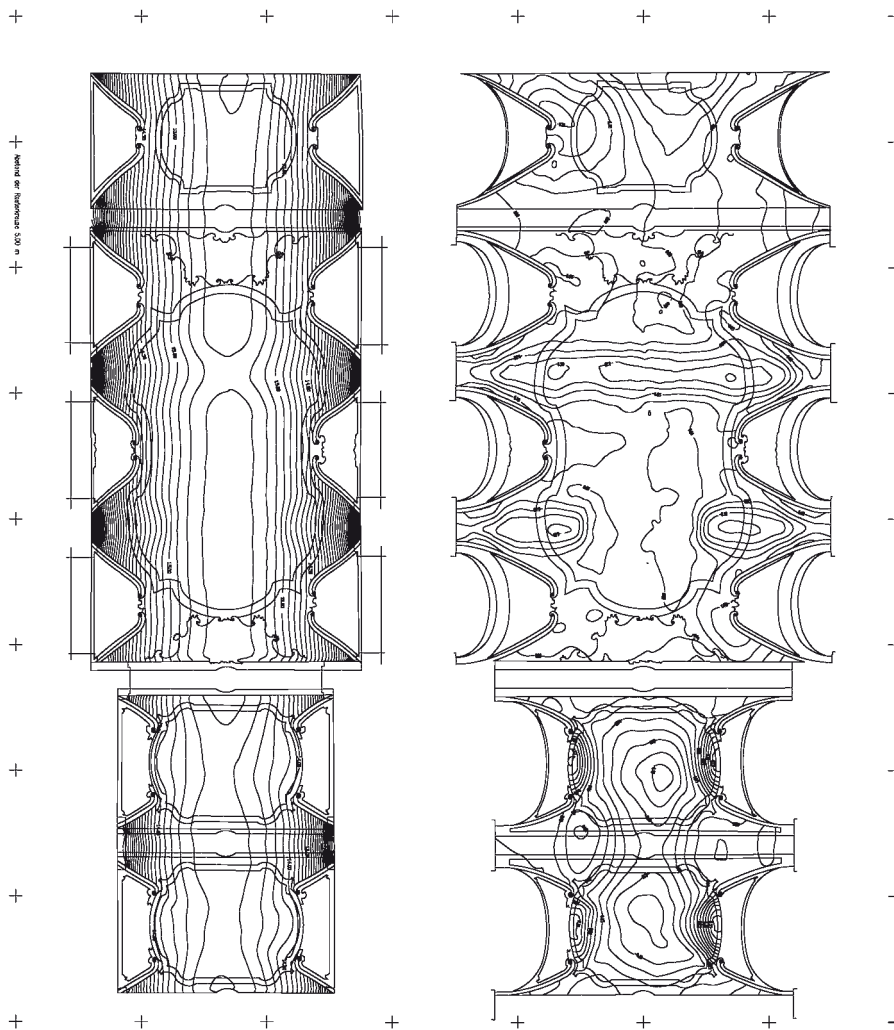


Deformation Measurements

fokus
GmbH Leipzig

Three-dimensional measuring data can be used to calculate surface models for the purpose of analysing and illustrating the deformation of buildings. The required data are collected by photogrammetric evaluation of stereo images using **metigo3D**, tacheometric point measurements or laser scanner. Profiles and height contour lines can be derived from the digital surface model which is produced. The monitoring of the continuous vertical movement of buildings is performed at intervals by precision levelling, which involves permanently marked wall pins with digital levels and verified benchmarks.

Inclinations and deformations are geodetically determined and supervised by tacheometric measurement of defined measuring points. These surveys can take place over several years and their results will be presented in suitable table or graph format.



► **Wemding, Wallfahrtskirche Maria Brunnlein**

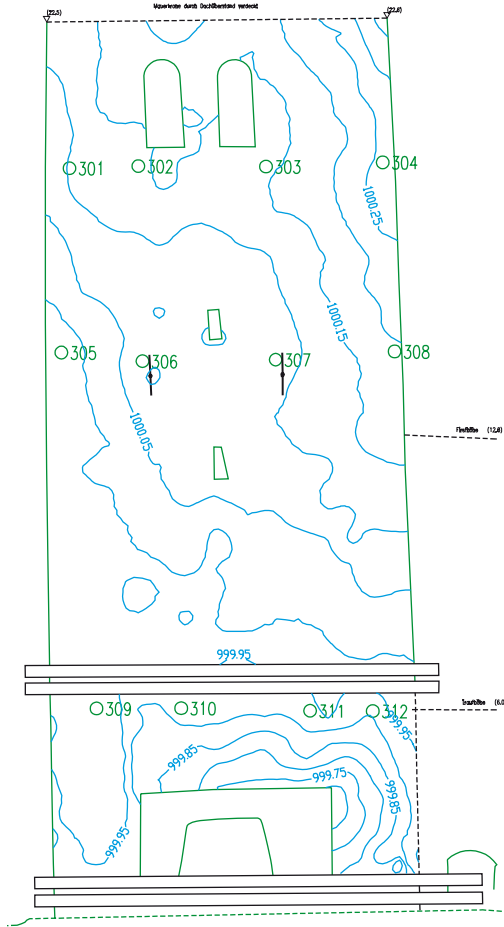
from left to right hand side: contour lines based on a 3D-surface model for illustrating the deformation of the barrel vault;
rolling out of the surface model into the plane (reduced to centre barrel);
digital rolling out of the barrel vault

► Eilenstedt, St.Nicolai Church

left: south view

centre: contour lines based on 3D-surface model for illustrating the deformation of the building

Right: digital photomap scale 1:50, tower south-side



1993 – 95	Aschersleben	St. Stephani's church
1994 – 96	Hettstedt	Hexenturm (city wall tower)
1993 – 95	Zeitz	St. Peter and Paul Cathedral
1995 – 97	Halle (Saale)	Post Office in Hansering
1996	Hasselfelde	St. Antonius Church
since 1997	Quedlinburg	minster
since 1997	Merseburg	St. Vitii Church
since 1997	Eckartsberga	Eckartsburg (castle)
since 1998	Halberstadt	St. Stephanus and St. Sixtus Cathedral, cloister
1998 – 2002	Rostock	former St.-Katharine's monastery
► since 1999	Eilenstedt	St. Nicolai Church
► 1999	Wemding	pilgrimage church, barrel vault
since 2000	Zerbst	Town Hall (former riding hall of castle)
2007	Frose	minster

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fokus GmbH Leipzig is an engineering company providing special services in the fields of building surveying, photogram and image processing. Our scope of services also includes planning and documentation for architects, urban preservationists, building researchers and restorers. We furthermore develop and market industry-specific software. For the preparation and evaluation of deformation measurements our software package **metigo3D** is used.