



**04<sup>th</sup> October 2011 - 02:00 p.m.**  
DESY building 49 - seminar room (108)

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### Characterization of photonic nanostructures with synchrotron radiation

After a short introduction of the theory of X-Ray scattering from nanostructures on the basis of grazing incidence diffraction (GID) and grazing incidence small angle scattering (GISAXS), a new measurement routine and analysis procedure for the in-situ investigation of shape, strain and chemical composition of quantum dots is proposed.

For this purpose the combinations of total external surface reflection and diffraction processes (multiple scattering) are analysed and discussed. Finally the experimental settings, especially the beamline optics, are reviewed in order to clarify their influence on the data acquisition comfort and data quality.