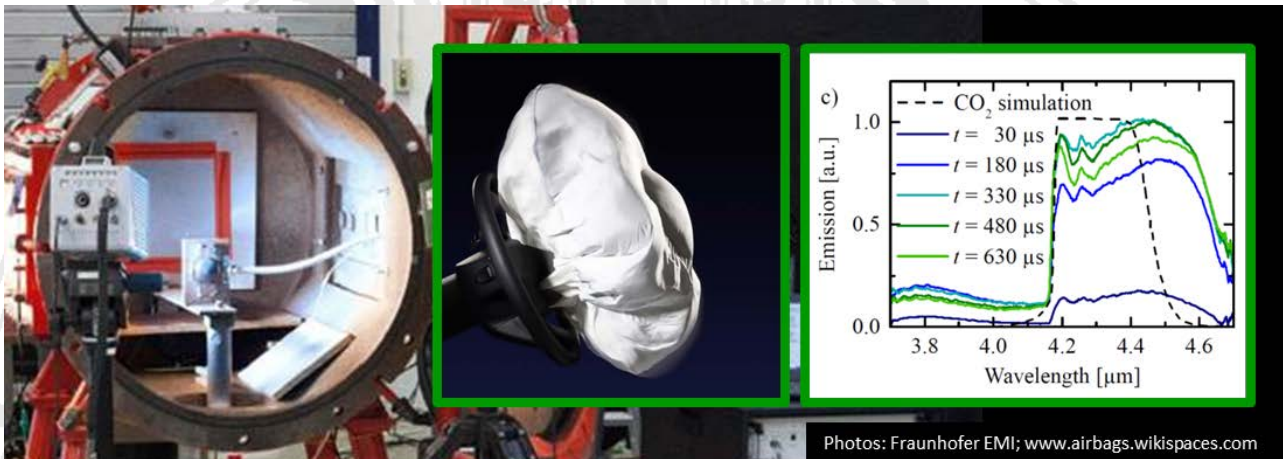


# PHYSIKALISCHES KOLLOQUIUM

AM 24. APRIL 2017 UM 17 UHR C.T.

IM HÖRSAAL I, PHYSIKHOCHHAUS



## “LOOKING CLOSER: LASER-BASED INFRARED SPECTROMETERS AS TOOLS FOR QUALITY CONTROL AND PROCESS MONITORING”

DR. FRANK KÜHNEMANN  
FRAUNHOFER-INSTITUT FÜR PHYSIKALISCHE  
MESSTECHNIK IPM, FREIBURG

Nonlinear-optical frequency conversion has developed into a powerful approach for different fields in spectroscopy. Sources like Optical Parametric Oscillators and detection schemes like sum-frequency up-conversion (e.g. from the mid-IR to sub-micron wavelengths) facilitate the development of new types of spectrometers for different analytical tasks.

The talk will present recent examples like the spectroscopy of residual trace absorptions in mirrors for high-power lasers at the parts-per-million level and the recording of mid-infrared emission spectra of ignited airbag gas generators with more than 5000 spectra per second.