

FAKULTÄT für PHYSIK  
LUDWIG-MAXIMILIANS-UNIVERSITÄT  
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT  
TECHNISCHE UNIVERSITÄT MÜNCHEN  
MÜNCHEN/GARCHING

## MLL-KOLLOQUIUM

Donnerstag, 19.04.2012, 16<sup>15</sup> Uhr

Hörsaal der LMU in Garching, Am Coulombwall 1  
Treffen zum gemeinsamen Kaffee 16 Uhr

**Dr. Julia Herzen**

**TU München / E17**

### **Diagnostic value of grating-based X-ray phase-contrast imaging**

The grating-based x-ray phase-contrast imaging is currently one of the most promising candidates for future clinical implementation, as it is extendable to conventional x-ray sources. With our work we evaluate the diagnostic value of the method using different ex-vivo human soft-tissues, which reveals only weak contrast in conventional computed tomography (CT). Our study shows that phase-contrast computed tomography (PC-CT) significantly enhances the soft-tissue contrast in human ex-vivo specimens and allows clearly distinguishing between healthy and diseased tissue using the combination of the absorption and the phase-contrast information. The significant contrast improvement is possible without any contrast agent. The results of our study demonstrate that the early diagnostics of human diseases can be significantly improved, once the method has been made clinically available.

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