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## **Mobile system for in-situ imaging of cultural objects**

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Non-invasive analysis techniques we have recently developed with the pixel detector Timepix have shown great potential for the inspection of the objects of cultural heritage. We have newly developed the instrumentation and methodology for in-situ X-ray transmission radiography and X-ray fluorescence imaging. With the methods successfully tested we are evaluating the mobile system for remote terrain tasks. The prototype of a portable imaging device has been designed. It comprises the radiation source tube and the spectral sensitive X-ray camera. Both components are mounted on independent motorized positioning systems allowing adaptation of irradiation geometry to the object shape. Both parts are placed onto a pair of universal portable holders (tripods). The detector is placed in a shielded box with replaceable entrance window (beam filters and pinhole collimator). This flexible setup allows performing in-situ measurements for both transmission and emission (XRF) radiography. The assembled system has been successfully tested in our laboratory with phantoms and real samples. The obtained and evaluated results are presented in this paper. Future work includes an adaptation of the current system for real in-situ utilization and preparation of software allowing semi-automatic remote control of measurement.

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