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Investigation of the surface of binary metallic alloys using Positron annihilation induced Auger Electron Spectroscopy, XPS and STM

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The characterization of the elemental composition of surfaces is of high importance for the understanding of many surface-related processes such as catalysis or oxidation.
Positron annihilation induced Auger Electron Spectroscopy (PAES) is a powerful technique to gather information about the elemental omposition of only the topmost atomic layer of a specimen. The positron beam facility NEPOMUC delivers a high intensity positron beam of 10^9 e+/s and enables measurement times of only a few minutes per PAES spectrum. Thus, time-dependent PAES is possible and enables the in-situ observation of surface kinetics. The upgraded surface spectrometer at NEPOMUC uses the complementary techniques PAES, XPS and STM for a comprehensive surface analysis.

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