17.2.6 The heavy-particle-induced electron spectroscopies

The individual techniques are classified according to the involved processes.

Ion Neutralization Spectroscopy (*INS*) is an incident-ion electron spectroscopy based on the Auger neutralization process.

Excited-Atom Deexcitation Spectroscopy using Incident Ions is an incident-ion electron spectroscopy based on the consecutive occurrence of the resonance neutralization and Auger-deexcitation processes.

Resonance Ionization Spectroscopy is an incident-metastable-atom electron spectroscopy based on the consecutive occurrence of resonance ionization and Auger neutralization.

Surface Penning-Ionization Electron Spectroscopy (SPIES) is an incident-metastable-atom electron spectroscopy based on the Auger deexcitation process.

Some workers refer to the general technique of using metastable atom sources as *Metastable-Quenched Electron Spectroscopy* (*MQES*) reserving the above terms for spectra produced by the specific mechanisms named.