A new automated system for combined luminescence and exo-electron measurements

The measurement of OSL/TL relies on the initial trapping and subsequent release and recombination of charge in a suitable crystal structure. These measurements allow us to estimate the dose which the crystal has been subjected to and its age. During such processes, however, electrons can be emitted from the sample surface; the ability to measure such exo-electrons can provide information regarding the trapping process, as well as an alternative method of measuring trapped charge. Ideally, TL/OSL can be measured alongside exo-electrons. We will present a new design for an exo-electron detector compatible with the classic Risø reader stimulation head featuring multiple anode configurations and the option for high-voltage modulation to reduce the UV component during TL/OSL measurements.