With the trend of using microcrystals and intense microbeams, radiation damage becomes a more pressing problem. Theoretical calculations by Nave and Hill [1] show that the photoelectrons that primarily cause damage can escape very small crystals, reducing the effective dose, an effect which was demonstrated to be pronounced at higher energies [2].

To investigate photoelectronic escape, we measured radiation damage at cryo-temperatures on lysozyme crystals of 5um and 20um mounted on a cryo-EM grid. The data were collected at 13.5 keV and 20.1 keV using a 2M CdTe Pilatus and were analysed with DIALS [3] and RADDISE3D [4]. Our data indicate a longer crystal lifetime for smaller crystals and support the theory of photoelectron escape.