

Novel isotopic and geochemical applications of Secondary ion mass spectrometry

M.J. WHITEHOUSE¹

¹*Swedish Museum of Natural History, Box 50007, SE104 05 Stockholm, SWEDEN (*correspondence: martin.whitehouse@nrm.se)*

An increasing number of high-spatial resolution analytical methods are available to the modern petrologist seeking to obtain information on small-scale geochemical and isotopic heterogeneities in rocks and minerals. Amongst these, Secondary Ion Mass Spectrometry (SIMS) remains largely unchallenged, in spatial/volume resolution as well as sensitivity and the ability to measure both positive and negative ions. This keynote will explore some of the well-established methodologies available to Nordic researchers using modern, state-of-the-art SIMS instruments such as the CAMECA IMS1280 instrument in Stockholm, including in situ analysis of volatiles, halogen contents (and Cl isotopes), and Pb isotopes. Additionally, newly developed methods utilising scanning ion imaging will be presented, showcasing an as yet little used, but highly versatile new tool.