

Probing Halogens in Marine Particles Using Synchrotron-Based Methods

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Beneath a high background of inorganic halides, halogens are surprisingly reactive in the marine environment. Synchrotron-based tools, particularly X-ray fluorescence microscopy and X-ray absorption near-edge structure spectroscopy, have been critical in revealing interactions of chlorine and bromine with marine organic matter. Preparation of particulate marine samples for halogen-specific synchrotron measurements requires removing background halides without altering organic matter composition. This talk will cover synchrotron-based analysis of halogens in various marine sample types, including phytoplankton biomass, “marine snow,” and sediments from different geological environments.