Pacific ^{210}Pb and ^{210}Po

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Kanchan Maiti plans to submit a proposal for Pacific GEOTRACES. The focus is on the shorter lived ^{210}Po-^{210}Pb radionuclide pair which is ideally suited to study the sources and sinks of TEIs in this basin. The pair has seen application since GEOSECS for quantifying particulate scavenging and carbon flux. I have considerable experience with these tracers and have been closed involved with GEOTRACES intercalibration of short-lived radioisotopes in the U-Th series, being in charge of collection and distribution of both ^{234}Th and ^{210}Po/^{210}Pb particulate samples. The sampling effort requires small volume samples from the CTD (~8L) and large volume samples for vertical profiles of particulate ^{210}Pb and ^{210}Po. We are assuming there will be a separate large volume in situ pump effort and the particulate ^{210}Pb and ^{210}Po can be analyzed from a small punch (equivalent to 50L) of the QMA filters provided by the in situ pumping system. This work will not require any specialized pumps or trace metal clean sampling. The proposed work will be closely coordinated with other GEOTRACES PIs for other particle-reactive (e.g. Th, Pa) or dissolved (e.g. Ra) radionuclide isotopes. We expect this effort to require one person (berth), who can also help with in situ pumping system.