

210Po and **210**Pb air-surface deposition fluxes in Japanese coastal area

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Atmospheric deposition of ^{210}Pb is important in calculating downward transport fluxes of ^{210}Po -adsorptive debris in open water, while ^{210}Po atmospheric deposition is generally negligible in ocean surface. However, in coastal area, the ^{210}Pb deposition is higher and variable, and the excess ^{210}Po atmospheric deposition is sometimes detected probably because of land-born wind-driven re-suspended soil particle's deposition. In the estimation of particle removal rate by particle reactive these nuclides in coastal waters, the sight specific atmospheric deposition flux estimation will be necessary. In high latitude Asian coastal area of North Pacific Ocean, the Chinese continental air-mass and wind-driven particles are the significant source of ^{210}Po and ^{210}Pb . Briefly, the ^{210}Po and ^{210}Pb concentrations are expected to be raised under the conditions of land-originated wind blows from the Chinese continent. To clarify the generality and variations of these nuclide's atmospheric deposition fluxes around Japanese coastal area, we analyzed the ^{210}Po and ^{210}Pb concentrations in dry and wet fallout on Japanese coastal area. We estimate the balance of ^{210}Po and ^{210}Pb deposition flux on Japanese coastal area and discuss the origin and variations of these nuclide's deposition fluxes. The result indicated that the large seasonal variations of ^{210}Po and ^{210}Pb atmospheric depositions in Okinawa coastal area, which shows high in late winter and low in summer, indicating the main source of ^{210}Po and ^{210}Pb are estimated to be Chinese continent origin, because the NW monsoon from continent is dominant in winter. While in coastal area of mainland arc, ^{210}Po and ^{210}Pb deposition fluxes are high during winter and rainy seasons, indicating the mainland is other source of these nuclides.