摘要

本研究分析了2002年05月15日至2003年09月09日在台北市陽明山中國文化大學所採集到120個雨水樣品，利用原子吸收光譜儀分析雨水中各微量金屬元素濃度，其中Cu、Co、Cd使用石墨式原子吸收光譜儀測定，Zn使用火焰式原子吸收光譜儀測定，並且利用濃度、pH值、季節以及氣象資料來探討陽明山地區雨水中微量金屬元素濃度分佈、來源以及傳輸機制。

研究結果顯示雨水中微量金屬元素濃度有明顯季節性變化，在冬、春兩季分別受到東北季風所帶來的亞洲大陸陸源物質與沙塵暴的影響，各金屬元素濃度有明顯增高。而鄰近本研究區域的北投焚化廠與內湖焚化廠亦會造成相當的污染。利用富集因子分析結果Cu、Cd、Zn大部分皆屬污染源，Co屬於地殼源與少部分污染源。

Abstract

The period from May 15th, 2002 to September 9th , 2003, total one hundred and twenty rain samples was collected during rainy days at Chinese Culture University, Yang Ming Shan, Taipei City. On the study, trace metals Cu, Co and Cd were determined by graphite furnace absorption spectrophotometry (GFAAS) ; and Zn was measured by flame absorption spectrophotometry (FAAS). The research purposes of rain waters in the northern Taiwan are (1) change of trace metal concentration in rainwater with seasons, (2) sources of trace metal in rain water, and (3) transportation of trace metal in the atmosphere.

The trace metal concentration of rain water was affected by the crust materials of Asian continent carried by the northeast monsoon in the Winter season. The dust storms occurred in the Spring increase trace metal concentration of rain water. The incinerators of Beitou and Neihu nearby the rain water sampling station may affect to increase the trace metal concentration. By applying the model of enrichment factor, it implied that Cu, Cd and Zn in rain waters are from pollution ; but Co is from crust material and pollution.