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**Distribution and risk assessment of Cr, Pb, V and Zn in the soil of Huaibei coal mining area, Anhui, China**

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Coal is the major energy source in China. The release of Cr, Pb, V and Zn during coal mining and utilization is considered to have prominent environmental impacts. Soil samples were collected from four representative coal mines of Huaibei (BS, RL, ZZZ and WG). The study aims to investigate the accumulation, transfer behavior and potential sources of Cr, Pb, V and Zn. The concentration of Cr, Pb, V and Zn was analyzed using ICP-MS, and sequential extraction procedure was used to find the four chemical forms. The mean concentration of Pb (22 µg/g) and V (78 µg/g) in soil samples was lower than the global soil background, while the mean concentration of Cr (82 µg/g) and Zn (72 µg/g) was higher than the global soil background. The concentrations of Pb, V and Zn were high in the oldest coal mine (BS), while Cr was high in the youngest coal mine (WG). The concentration of Cr from BS coal mine and Pb from RL coal mine decreased with increasing distance from the coal gangue. The concentration of V from BS and RL coal mine increased first and then decreased with increasing distance. Chromium, Pb and V were observed in the residual form, while Zn was observed to be in reducible form. The potential ecological risk assessment method showed that Cr, Pb, V and Zn contamination level near the coal gangue was very low.

**Biography**

Yuan Liu is a joint PhD candidate from City University of Hong Kong and University of Science and Technology of China. She has published five papers in reputed journals.

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