

## **Content and Forms of Strontium in Typical Underground River in Karst Area: A Case Study in Dingqi, Anshun, China**

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### **Methods**

The strontium concentration of sediment, control soil and control slag, by Atomic Absorption Spectrophotometer (AAS) have been analysed. In the meantime, the strontium in five forms of EXC (exchangeable), CAB (carbonate combined), OXI (Fe-Mn oxide combined), ORG (organic combined) and RES (residual), by the improved Tessier assay<sup>[1]</sup> have been tested.

### **Discussion of Results**

The results indicate that the total strontium (Sr) of sediment ranged from 189.9 to 1402.2 mg/kg, averaging 662.4mg/kg, which is higher than that of control soil (112.7 mg/kg) and other underground river sediments of south China. Further compared with strontium slag from Strontium chemical plant in this area, the average strontium of sediment is lower than that of slag. Through the analysis of the distribution characteristics of Sr in space, it can find that the distribution of Sr exists obvious difference in different underground river subsystem, and the shorter distance with the strontium chemical plant the higher average content of Sr. The analysis shows that the distribution of Sr of sediment in research area is closely related to the discharge of Strontium chemical plant "three wastes".

The testing results of forms indicate that most of strontium of sediment is present in RES form, which make up 55.23 to 80.11% of the total. However, the amount of strontium in different forms of different underground river subsystem have different order. This may be related to the impact of chemical plant production on the region.

[1]Changsong Zhou, et al.(2016)Journal of Jilin University(Earth Science Edition) 46,552~562.