

Paper Number: 1196

Uniformity of Uranium Deposits in Mineralization ages and H-O isotopes, South China: Implications for their Genesis

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The South China Uranium Province (SCUP), that accounts for the largest amount of explored uranium deposits and resources in China, was the most important uranium-mining region in past. In SCUP, the uranium deposits are mainly hosted by granites, volcanic rocks and black shale (Fig.1). Economically, granite-hosted uranium deposits rank firstly, volcanic-hosted secondly, and black shale thirdly. These deposits mainly occur around Cretaceous-Neogene redbed basins, and controlled by faults. Their mineralization ages are usually tens of million years later than ore-hosting rock, mainly ranging from 140Ma to 10Ma with concentrating between 40Ma and 90Ma, which corresponding to the formation of Cretaceous-Neogene basin. The H-O isotopic compositions are nearly same to basinal origin, and precluding metamorphic and magmatic fluid. The uniformities of SCUP in mineralization age, and H-O isotopes implicate their genesis are similar to the unconformity type uranium deposits, and controlled by Cretaceous-Neogene redbed basin.

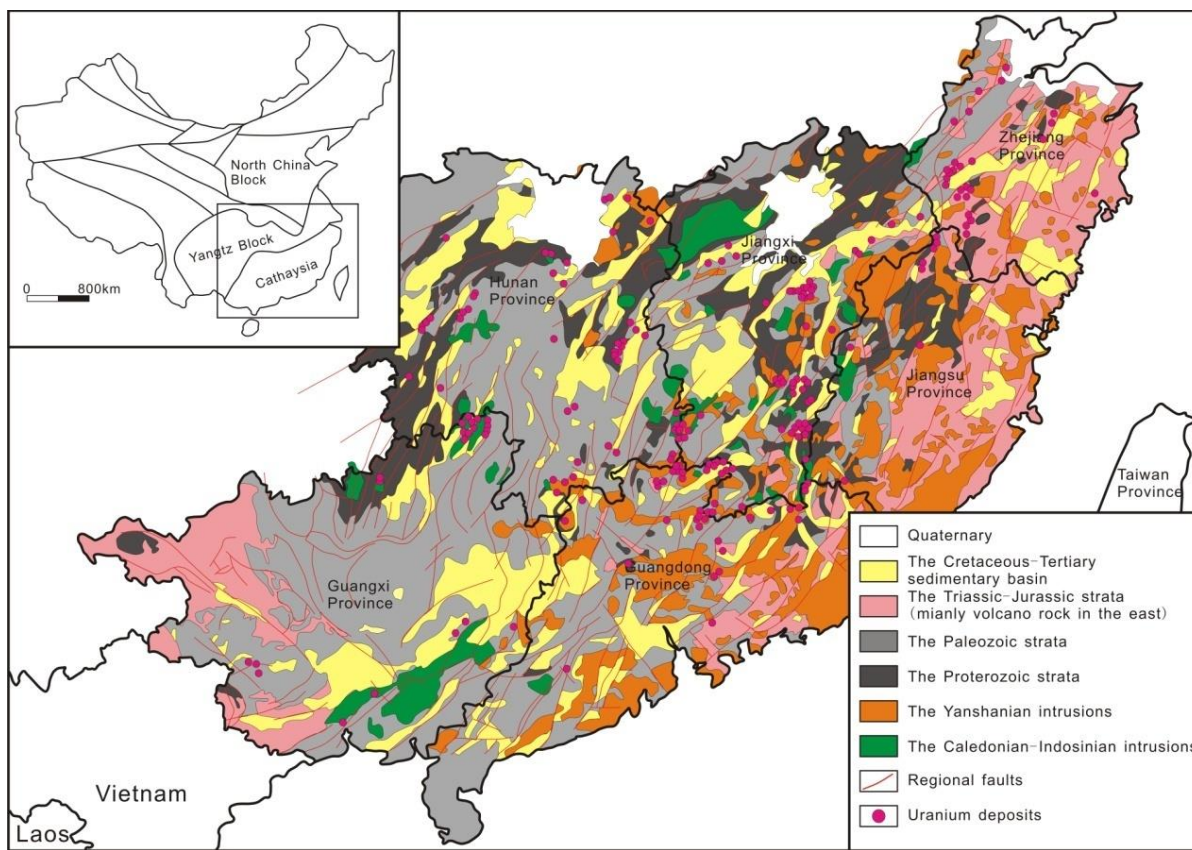


Fig.1 The sketch geological map of SCUP (modified from CGS, [1]), is showing the distribution and location of uranium deposits in South China.

References:

[1] China Geological Survey (2000) China Geological Map (1:5000000)

