STUDY ON MINERALIZATION AGE OF GOLD DEPOSITS FROM WULONGGOU AREA, EASTERN KUNLUN MOUNTAINS, USING FISSION TRACK METHOD

W. Yuan(1), X. Mo(2), S. Wang(1) and X. Zhang(2)

(1) Institute of High Energy Physics, CAS, Beijing 100039, (2) China University of Geosciences, Beijing 100083 (yuanwm@mail.ihep.ac.cn)

Determination of mineralization age of ore deposits is still a very important but quite complicated task in geological field. Wulonggou gold ore district belongs to northern part of Qing-Tibet Plateau. It is of great significance both in theory and in prospecting practice to determine the mineralization age of the gold deposits. In this study we report the fission track analysis of both zircon and apatite from 3 gold ore deposits in Wulonggou area as a method of determining mineralization age. The measured zircon fission track ages range from 197.4 Ma to 235.0 Ma and an apatite fission track age is 200.5 Ma, which corrected age of the apatite is 244 Ma. These fission track ages accord basically with the 207.1 - 252.9 Ma Rb-Sr and K-Ar isotopic ages for the ore deposits and reflect the mineralization age in corresponding temperature. Thermal history modeling results reveal that the gold district went through 2 ascending temperature and 2 descending temperature process, which indicates not only protracted nature of the minerogenesis but also multiperiodic mineralization. It is demonstrated by the fact that there are obvious differences among zircon fission track ages from 3 gold deposits and it conforms to the geological characteristics of the ore districts.