

## 内蒙古奥尤特铜-锌矿床绢云母<sup>40</sup>Ar-<sup>39</sup>Ar同位素年龄及地质意义

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中文摘要: 内蒙古东乌珠穆沁旗奥尤特铜-锌矿床位于西伯利亚板块南缘的查干敖包—奥尤特—朝不楞早古生代构造岩浆带。为了获得该矿床的形成年龄, 笔者首次对奥尤特矿床铜-锌矿中的绢云母进行了<sup>40</sup>Ar-<sup>39</sup>Ar同位素年代学研究。所测样品的有效坪年龄值为(286.5 ± 1.8)Ma(2σ), 等时线年龄为(287 ± 10)Ma(2σ), MSWD=0.45, <sup>40</sup>Ar/<sup>36</sup>Ar的初始值为284 ± 74, 等年龄与坪年龄在误差范围内完全一致, 该结果可能代表绢云母的形成时代。详细的野外地质调查和系统的室内岩(矿)相学研究结果表明, 奥尤特绢云母和铜-锌硫化物矿具有密切的成因关系, 可以推测奥尤特铜-锌矿床形成于海西晚期, 属海西晚期构造—岩浆活动的产物。

中文关键词: [氩-氩同位素年龄](#) [绢云母](#) [铜-锌矿床](#) [奥尤特](#) [内蒙古](#)

## ~(40)Ar--(39)Ar Geochronology of the Aououte Cu-Zn Deposit in Inner Mongolia and Its Significance

**Abstract:** Located in the easternmost part of the Early Paleozoic Chaganobo-Aououte-Chaobuleng tectono-magmatic belt along the southern edge of the Siberian plate, the Aououte deposit is an important copper-zinc deposit within the Erenhot-Dong Ujmqin Banner metallogenic belt. In order to obtain the ore-forming age, the authors measured sericite separates from the copper-zinc sulfide ore of the Aououte deposit by the <sup>40</sup>Ar-<sup>39</sup>Ar incremental heating method and, as a result, obtained an <sup>40</sup>Ar-<sup>39</sup>Ar plateau age of (286.5 ± 1.8)Ma(2σ), an isochron age of (287 ± 10)Ma(2σ) with the MSWD value of 0.45, and an initial <sup>40</sup>Ar/<sup>36</sup>Ar value of 284 ± 74. As sericite and metallic minerals were for almost simultaneously, and the plateau age is in agreement with the isochron age within a reasonable error range, the <sup>40</sup>Ar-<sup>39</sup>Ar dating results of the sericite can be regarded as the ore-forming age of the Aououte copper-zinc deposit. Many researchers believe that the Aououte deposit and its neighboring mineralized areas were mostly formed during the Yanshanian orogeny. This paper, however, shows that the formation of the Aououte copper-zinc deposit was related to Late Hercynian magmatism and, after that, the deposit was exposed at the surface and subjected to weathering, leaching and enrichment. The authors believe that the isotopic age is of great significance in the study of regional geological evolution, the investigation of the ore-forming processes of metallic deposits and the exploration of concealed copper-zinc deposits in the Aououte mineralized district.