

NWA869:Petrography, mineral chemistry and U-Pb dating.

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It is thought by the previous studies that the asteroids is covered with regolith(brecciation), whose components are similar to that of chondrite breccias. So, it is thought that chondrite breccias may record the shock event on its parent body. Thus the dating of chondrite breccias was changed by removing elements of the shock event, so chondrite breccia have not been dated successfully until now. The aims of this study are to describe the chondrite breccia mineralogically and petrographically and to date it by U-Pb method.

NWA869 is one of the chondrite breccias found in Northwest Africa. NWA869 consists of olivine($\text{Fa}_{25.3+0.9}$), pyroxene($\text{Fs}_{20.3+1.2}$), plagioclase, maskelynite, Fe-Ni, Fe, chromite, troilite, apatite, and whitlockite. Chondrules are classified into three. Porphyritic olivine, barred olivine and radial pyroxene. It is an L chondrite, and the matrix includes a light clast. Petrologic type of the matrix is L4 and that of the light clast is L6. Shock atage and weathering grade were determined as S4 and W0, respectively.

Apatite in NWA869 was dated by the U-Pb method using an ion microprobe. The dating result for ordinary chondrites.

From the result of this study, the U-Pb age of it may not be changed by the shock event. Therefore, the age of $4582 \pm 46 \text{Ma}$ is thought to be the age of the metamorphism on its parent body.