Contribution ID: **15** Type: **Poster**

Thu-Mo-Po.06-07: Fatigue behavior of Cu-Zr alloys

Thursday 3 July 2025 08:45 (2 hours)

Age-hardened Cu-Zr sheets are used in resistive magnetic field application. In this work, we studied the fatigue properties of Cu-Zr and Cu sheets. Three categories of Cu-Zr sheets with different strength were investigated and compared. Our investigation showed that their fatigue life was related to their ultimate tensile strength (UTS). Materials with higher UTS demonstrated longer fatigue life. At same UTS level, Cu-Zr sheets endured more fatigue cycles than cold deformed Cu (C101). We observed cyclic softening at the later stage of fatigue tests in both Cu-Zr and C101. The presence of Zr in Cu-Zr delayed the occurring of cyclic softening, comparing to C101.

Author: NIU, Rongmei

Co-author: Dr HAN, Ke (National High Magnetic Field Laboratory)

Presenter: NIU, Rongmei

Session Classification: Thu-Mo-Po.06 - Mechanical Behavior and Stress II