**1. Motivation**

Last year, we reported MgB₂ film deposited on 500 μm-thick Cu plate [1]. The superior Jc-B-T properties of the film suggested that thin film MgB₂ will be advantageous for superconductor tape and coil applications under high magnetic field. The next step is depositing MgB₂ film on thin Cu tape to increase the engineering critical current density Jc. We deposited MgB₂ film on 40 μm-thick Cu tape and measured Tc, Jc-B-T and Je-B-T properties.

**2. Experimental method**

MgB₂ films were deposited by co-evaporation of boron and magnesium. B was evaporated by EB, while Mg was evaporated by effusion cell.

**3. Evaluation method**

- Critical current density: 4-probe resistance measurement
- Magnetic susceptibility: SQUID flux meter
- Cross-section structure: TEM and STEM
- Surface structure: SEM

**4. Results**

- Tc of MgB₂ film was almost same on Cu tape and plate. Crystal orientation of film on tape got worse than plate.

**5. Conclusions**

We deposited MgB₂ film on thin Cu tape and measured Tc, Jc-B-T and Je-B-T properties.

1. Tc of film on tape was 33.5 K, equivalent to that of film on plate.
2. Je at 20 K, B=5 T was 2,950 A/mm² in the B ⊥ substrate direction and 460 A/mm² in the B // substrate direction.
3. Jc of film on tape at 20 K, 5 T improved in B ⊥ substrate direction and degraded in B // substrate direction than that of film on plate due to existence of MgOₓ.

**6. References**