

# Design and Fabrication of the Active Cooling Divertor Components for HL-2M Tokamak

*LIU Xiang, et al*

*Southwestern Institute of Physics, Chengdu, China*

- 1) One important mission of HL-2M tokamak is advanced divertor configurations, such as snowflake and tripod.
- 2) A active cooling casstte divertor structure for HL-2M is proposed. Preliminary design has completed by thermal, fluid, mechanical and electromagnetic analysis.
- 3) R&D of divertor components fabrication are conducted, two options are tried: Cr Slurry+Sintering+Cu casting+ vacuum brazing, and PVD-Ti coating+Cu casting+vacuum brazing. Metallurgical observation and shear test showed good bonding.
- 4) A small scale CFC/CuCrZr by Cr slurry was tested in an electron facility EMS 60. It successfully withstood  $10 \text{ MW/m}^2$  heat flux for 1000 cycles and an additive 100 cycles at  $15 \text{ MW/m}^2$  heat flux.