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## **M1Po2A-01: Influence of surface structure of metal materials on radiation properties at cryogenic temperature**

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As one major part of heat transfer at cryogenic temperature, thermal radiation has an important impact on the design and operation of cryogenic systems, which is mainly related to the temperature and emissivity of the surface of material. Previous studies show that the surface roughness of material has an influence on the magnitude of the emissivity, which varies from different surface finishes. In this paper, oxygen-free copper and stainless steel which are commonly used in cryogenic systems are performed by different surface treatments. Emissivities of those metallic materials with different surface roughnesses are measured at cryogenic temperature, and the effect of metal surface structure on emissivity at different temperature are studied.

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