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M1Po2C-04 [39]: Development of an in-situ analysis instrument for micro-mechanics of materials with low temperature

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A material microstructure in-situ analysis instrument was designed in which a scanning electron microscope and a small refrigerator were used to observe the microscopic morphology and cool the sample (can be cooled as low as 15 K), respectively. The instrument is also equipped with a deformation excitation device that can stretch and compress the material in situ. The vibration damping measures, thermal insulation / efficient heat transfer measures and deformation excitation measures will be discussed, and some preliminary experimental results will also be given.

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