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# C3Po1C-03 [06]: Experimental measurements on MLI performance from 20-60 K to 4.2 K

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Future accelerators like the Future Circular Collider (FCC) under study at CERN, will be considerably larger than the Large Hadron Collider (LHC) presently in operation, with consequent increasing demands for cryogenically efficient cryostat solutions. MLI insulating systems remain the technology of choice for large accelerators due to the compromise they offer between thermal performance and cost-effectiveness. Thermal design solutions for cryostats can employ different combinations of thermal shields operating at intermediate temperatures, with optimally chosen MLI solutions. Data in literature is scarce for MLI performance at 4.2 K when operating with a thermal shield at a temperature between 60 K and 20 K. Therefore, a dedicated test program for the qualification of MLI samples is underway at CERN, exploring different MLI configurations, shielding radiative heat from 20-60 K to 4.2 K and with residual gas pressures between 10-6 and 10-4 mbar. This paper presents results from the test campaign.

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