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## **Mon-Af-Po1.11-03 [3]: A new way to solve the critical current degradation of YBCO coils by ice**

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The critical current degradation of YBCO coils have been observed in a large number of experiments, which have been explained that the thermal expansion mismatch between the YBCO tapes and resins lead to damage of the conductor. The no-insulation coil can avoid the performance degradation, but it has a poorer mechanical strength without any reinforcement. A new impregnation method by ice was introduced to the YBCO coils. This method can perfectly solve the critical current degradation of YBCO coils, and the coils also have higher mechanical strength and higher thermal stability. The impregnation process is easy and the YBCO tapes can be recycled.

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