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Capillary cooling of superconducting coils

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Superconducting coils in AC application have losses which tend to warm up the coil and so limit the performance. Good thermal contact between the coil and the cooling agent is very important. Cooling by heat conduction is no option since big metallic plates in close contact with the coil generate eddy-current heating. In this research we investigate the possibility of cooling the coil with by a capillary through which a cryoliquid, e.g. liquid hydrogen or liquid neon, flows. The first results, using liquid nitrogen, will be reported.

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