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Improving the SuperMagnet model; recent developments and future activities

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Recent developments are introduced to improve the performance of the SuperMagnet model. Since an attempt to implement a momentum-conserving nodal branch, a series of study has been carried out shedding a light to the next step to the improved performance, by means of careful investigations to the numerical structure of the integrated model. From the latest quench model with adaptive time-step to the innovative coupling scheme to solve the instability, the outcomes of recent studies are presented, which are to be applied progressively for better numerical modelling of the integrated components. At the same time, some important ideas are also discussed leading the direction to the near future of the SuperMagnet code suite.

Keywords

Cryogenics, Hydraulic model, Superconducting magnet

Category

Tools to support commissioning and operation phases of superconducting magnet systems

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