

一种K500超导回旋加速器垫补线圈功率消耗的优化方法

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摘要 在K500超导回旋加速器原先设计中并未考虑垫补线圈功率消耗的优化问题。此文提出了一种带限制条件的最小二乘法来重新分配大小主线圈中电流比例以达到优化目的。采用优化法与未采用的Bellomo计算相比较,结果是令人满意的。

关键词 [超导回旋加速器](#) [垫补线圈功率优化](#) [带限制条件最小二乘法](#)

分类号

A METHOD TO OPTIMIZE THE POWER DISSIPATION OF THE TRIM COILS FOR THE EXISTING K500 CYCLOTRON

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Abstract There is no optimization of the power dissipation of the trim coils for the existing K500 superconductor cyclotron in the original design. A technique which readjusts the current proportion between the large main coil and the small one is developed to accommodate the requirement. The present calculations which are compared with Bellomo's show that the results are satisfactory.

Key words [Superconducting cyclotron](#) [Optimization of power dissipation of trim coils](#) [Least square technique with restrain conditions](#)

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