

等梯度电子直线加速器的功率和场强

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摘要 本文在沿等梯度盘荷波导的分路阻抗不为常数的情况下,对等梯度加速器的功率和场强的基本理论进行了讨论,推导了有束流负载时的功率和场强的计算公式,并分别以分路阻抗沿加速腔线性变化和二次变化为例,对功率和场强作了具体而系统的阐述,最后,给出了在分路阻抗线性变化下等梯度盘荷波导工程设计的数据图表。

关键词 [等梯度](#) [变化的分路阻抗](#)

分类号

THE POWER AND ELECTRIC FIELD INTENSITY OF THE CONSTANT GRADIENT LINEAR ELECTRON ACCELERATOR

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Abstract A general theory is developed for the power and electric field intensity of the constant gradient linear electron accelerator with varying shunt impedance along the disk-loaded wave guide. The engineering formulas are derived for the power and electric field intensity in the presence of electron beam loading in constant gradient structure with linear and quadratic varying shunt impedance. Finally, a complex of the engineering design graphs for the constant gradient structure with linear varying shunt impedance is presented for the practical application of the general theory.

Key words [Constant gradient](#) [Varying shunt impedance](#)

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扩展功能

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