EQUATIONS OF MOTION FOR A CHARGED PARTICLE IN n-DIMENSIONAL MAGNETIC FIELD

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The equation of motion for a charged particle moving in the n-dimensional constant magnetic filed is obtained for any linear gauge and any metric tensor by generalization of Johnson and Lipmann's approach. It allows to consider the magnetic orbits in the n-dimensional space. It is shown that the movement of a particle can always be decomposed into a number of two-dimensional cyclotronic motions and a free particle part.

9.7 cm

13.4 cm

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