

Antimatter

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Abstract

The nature of antimatter is examined in the context of algebraic quantum field theory. It is shown that the notion of antimatter is more general than that of antiparticles. Properly speaking, then, antimatter is not matter made up of antiparticles -- rather, antiparticles are particles made up of antimatter. We go on to discuss whether the notion of antimatter is itself completely general in quantum field theory. Does the matter-antimatter distinction apply to all field theoretic systems? The answer depends on which of several possible criteria we should impose on the space of physical states.

Keywords: algebraic quantum field theory

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