Письма в ЭЧАЯ. 2017. Т. 14, № 2(207). С. 241

REVISITING THE ROLE OF OCTONIONS IN HADRONIC PHYSICS

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Octonions and their split versions are shown to be applicable to the solutions of a large number of problems in hadronic physics, from the foundations of exceptional groups that are used in grand unified theories, to heterotic strings, the non-Desarguesian geometric property of space-time symmetries, twistors, harmonic superspace, conformal field theories, etc. Upon a brief review of these investigations we proceed to show how they are used in the unification of ancient and modern geometries, which in turn open new avenues for, and goes far beyond in providing, geometric foundations for the existence of internal symmetries such as color and flavor.

PACS: 13.75.-n; 13.85.-t

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