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Current status of Superstring theory and its implication to dimensional structure KOJI HASHIMOTO, Osaka university / RIKEN

Superstring theory is a candidate theory for unification of all forces and matter, and resultantly, it is a scheme to accommodate gravity in quantum field theory. It requires higher spatial dimensions for its consistency, and the detection of the extra dimension would be the most fundamental check of string theory. However, recent progress in string theory revealed that spacetime dimensions are not really a definite concept but an emergent phenomena. I shall review the current status of superstring theory and its implication to spacetime dimensions.