The dimensions of M-theory

J. F. Vázquez-Poritz*

Physique Théorique et Mathématique, Université Libre de Bruxelles, Campus Plaine C. P. 231, B-1050 Bruxelles, Belgium

ABSTRACT

We review some key ideas developed during the search for a theory which unifies all fundamental phenomena. This search has culminated in M-theory, which is believed to live in eleven dimensions. How can we account for the missing seven dimensions? One possibility is that of dimensional compactification, by which dimensions are rolled up too small for us to observe. Another possibility is that all observable fields are confined to a four-dimensional hypersurface. The holographic principle together with a brane world scenario may be invoked to achieve the latter possibility.

_

^{*}jvazquez@ulb.ac.be