

AN EIGHT-DIMENSIONAL FIELD THEORY OF QUARK CONFINEMENT

K. Tennakone

*(Department of Physics, University of Sri Lanka,
Vidyodaya Campus).*

The success of the quark model in explaining almost all aspects of hadron physics is well known. However, all attempts to isolate free quarks have failed. Currently fashionable theories explain the above paradox by confining quarks to bounded regions of space. In this work an eight-dimensional field theory of quark confinement is proposed. It is shown that absence of free quark fields imply that meson masses are quantized and lie on approximately linear Regge trajectories. The implications of the model on the bound state problem in quantum field theory are discussed.