

Baryon form factors in canonically quantized SU(3) Skyrme model

Prof Egidijus Norvaisas

Institute of Theor. Phys. And Astronomy, Lithuania

The canonical quantization procedure ensures the existence of stable soliton solutions in the SU(3) Skyrme model. The model was extended to the higher representations of the SU(3) group. The *ab initio* quantization performs the rich geometrical structure of the soliton which depends on quantum numbers of baryons as well. Left and right transformations of the unitary soliton field and corresponding Noether currents are expressed as operators in terms of quantum collective coordinates. The explicit expressions of electroweak form factors for baryons were derived. The form factors are very sensitive to the geometry of the soliton. To get self-consistent topological soliton model for baryons is significant to fit model parameters to experimental data and to get correct asymptotical behavior of physical quantities.