Optical Potentials in Kaonic Atoms

Carmen Garcia-Recio, J. Nieves, E. Oset and A. Ramos

Dpto. Fisica Moderna, Facultad de Ciencias
Avda. Fuentenueva, Universidad de Granada, E-18071 Granada, Spain
E-mail: g_recio@ugr.es

Abstract

A microscopic optical potential based on a chiral model is used as starting point for studying kaonic atoms levels. We add to this potential a phenomenological part fitted to the experimentally known shifts and widths of kaonic levels. This fitted potential is used to predict deeply bound atomic levels, as well as nuclear levels. Comparison with the predictions of other optical models found in the literature is done. Also the effect of certain known non-local contributions to the optical potential are also analyzed.