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Title: The ability of the spectral decomposition to correctly describe Kerr black holes with scalar hair

Abstract: The intricacies of massive, complex scalar fields surrounding Kerr black holes has long alienated further developments, namely, the study of their stability. To obtain a better insight into the structure of such objects, we, for the first time, propose a decomposition in spherical harmonics of all the functions that describe such solutions (metric and matter functions). We show that the first four non-zero spherical harmonics are sufficient to describe with high enough accuracy the solutions. To test the method, we use it to recover global quantities (Mass and scalar charge) and geometrical quantities (e.g. Light Ring and innermost stable circular orbit radial position). At last, we observe an evolution on the spherical harmonics individual contribution from the pure Kerr solution to the spinning Boson Star limit.