



ASYMPTOTICALLY FLAT HAIRY BLACK HOLES

Eugen Radu¹

¹*Mathematics Department, Aveiro University, 3810-193, Aveiro, Portugal*

We discuss a number of important hairy black hole (BH) solutions in a four-dimensional asymptotically flat spacetime, reviewing both classical results and recent developments. These were first the Einstein-Yang-Mills BHs together with their generalizations with Higgs field, and also the solutions with Skyrme hair. More recent examples are the BHs with a scalar field violating the energy conditions or non-minimally coupled to gravity (including scalarized solutions), and also the spinning synchronized BHs with a massive, complex scalar or vector field.