Furry black holes

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School of Physical and Mathematical Sciences

Black hole solutions of the Einstein equations of general relativity have been studied for over 90 years. Traditionally, the simplest types of black hole solutions have been studied, but over the past 20 years there has been an explosion of interest in more complicated black holes which arise when the Einstein equations are coupled to different types of matter field. These more complicated black holes are known as "hairy" black holes. In this talk we describe some black hole solutions of the Einstein equation with a particular type of matter (a Yang-Mills gauge field), in which the black hole solutions can have unlimited amounts of "hair", which we call "furry" black holes.

Speaker Biography

Elizabeth Winstanley was educated at the University of Oxford, where she studied for a BA in Mathematics and DPhil in Theoretical Physics. After four years as a Fellow of Oriel College, Oxford University, she has been at the University of Sheffield in the UK since 2000, where she is now Professor of Mathematical Physics. Her research interests cover classical and quantum black holes.

Host: Prof. Andrew Kricker, Division of Mathematical Sciences, School of Physical and Mathematical Sciences