

Black holes in higher dimensional spacetimes

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The study of theories of gravity and their black hole solutions in higher dimensions is a relatively recent and very active field of theoretical research. The consideration of additional spacetime dimensions beyond those perceivable brings about many surprises and uncovers the delicate structure of General Relativity, apart from being crucial to string theory, braneworld models of gravity or AdS/CFT correspondence, for example. In this short course I will review the spectrum of known black hole solutions in higher dimensions and their basic properties. Specific topics covered will include: solution generating techniques, the blackfold approximation method, gravity in the limit of a large number of dimensions, (non-)uniqueness and (in)stability.