KALUZA-KLEIN MONOPOLE WITH SCALAR HAIR

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We report on a new family of rotating black holes with scalar hair and a regular horizon of spherical topology, within five dimensional Einstein's gravity minimally coupled to a complex, massive scalar field doublet. These solutions represent generalizations of the Kaluza-Klein monopole found by Gross, Perry and Sorkin. When performing a Kaluza-Klein reduction, the five dimensional solutions yield a family of four dimensional spherically symmetric dyonic black holes with gauged scalar hair.