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Local energy decay for Dirac fields in the 5-dimensional Myers-Perry black hole geometry

We consider massive Dirac fields evolving in the exterior region of a 5-dimensional Myers-Perry black hole. Our main result states that the local energy of such fields decays in a weak sense at late times. This is proved in two steps. First, using the separability of the Dirac equation, we prove the absence of a pure point spectrum for the corresponding Dirac operator. Second, using a new form of the equation adapted to the two rotations axes of the black hole, we show by a Mourre theory argument that the spectrum is absolutely continuous. The result then follows. This is joint work with Thierry Daude (Cergy-Pontoise).