

Abstract Submitted
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A new form of the five-dimensional Myers-Perry rotating black hole metric TEHANI FINCH, Howard University — Painleve'-Gullstrand coordinates are convenient for presenting the Schwarzschild solution because of their flat constant-time hypersurfaces. Generalizations of these coordinates suitable for the rotating Kerr black hole have been presented by Doran and, more recently, Natario. These coordinate systems feature a time coordinate identical to the proper time of zero-angular-momentum observers that are dropped from infinity. Here, the methods of Natario and Doran are extended to the five-dimensional rotating black hole found by Myers and Perry. The result is a new formulation of the Myers-Perry metric. The properties and physical significance of these new coordinates are discussed.

Tehani Finch
Howard University

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