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Jordan frame no-hair for scalar-tensor black holes: a new proof

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We present a no-hair theorem for spherical black holes in scalar-tensor gravity. Contrary to the existing theorems, which are all proved in the Einstein conformal frame, this proof is performed entirely in the Jordan frame. The theorem is limited to spherical symmetry (instead of axisymmetry), but it holds for non-constant Brans-Dicke coupling.

[Based on V. Faraoni, Phys. Rev. D 95, 124013 (2017)]

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