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## Inner-extremal regular black holes from pure gravity

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It is well known that (static) regular black hole spacetimes can be sourced by appropriately chosen theories of non-linear electrodynamics. More recently, it was shown that many such models can also be obtained as solutions of vacuum gravity equations, upon considering an infinite series of quasi-topological higher curvature corrections. After reviewing both these approaches, I will show that the latter construction can be upgraded

to yield regular black holes with vanishing inner horizon surface gravity. In four dimensions, such a condition is necessary for the absence of classical instabilities associated with mass inflation on the inner horizon.

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