The late-time tails in the Reissner-Nordström spacetime revisited
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The late-time tail problem in the Reissner-Nordström (RN) spacetime is dual to
a tail problem in the Schwarzschild spacetime with a different initial data set: At
a fixed observation point the asymptotic decay rate of the fields are equal. This
duality is used to find the decay rate for tails in RN. This decay rate is exactly as
in Schwarzschild, including the case of the extremely-charged RN spacetime (ERN).
The only case where any deviation from the Schwarzschild decay rate is found is
the case of the tails along the event horizon of an ERN spacetime, where the decay
rate is the same as at future null infinity. As observed at a fixed location, the decay
rate in ERN is the same as in Schwarzschild. We verify these results with numerical
simulations.

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