

# **SOLUTION OF THE QC YAMABE EQUATION ON A 3-SASAKIAN MANIFOLD AND THE QUATERNIONIC HEISENBERG GROUP**

ABSTRACT. A complete solution to the quaternionic contact Yamabe equation on the qc sphere of dimension  $4n + 3$  as well as on the quaternionic Heisenberg group is given. A uniqueness theorem for the qc Yamabe problem in a compact locally 3-Sasakian manifold is shown. Consequently, all positive extremals and the best constant in the Sobolev-Folland-Stein inequality on the quaternionic Heisenberg group are presented explicitly.

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