

Vaisman and locally conformal Hyperkähler reduction

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Abstract

We prove that locally conformal Kähler reduction of compact Vaisman manifolds produces Vaisman manifolds and is equivalent to a Sasakian reduction. We define locally conformal Hyperkähler reduction, and show its compatibility with 3-Sasakian reduction, and the equivalence between the two reductions in the compact case. Moreover we show that locally conformal Hyperkähler reduction induces HKT reduction of the associated HKT structure and the two reductions are compatible, even though not every HKT reduction comes from a locally conformal Hyperkähler reduction. This is a work-in progress with Rosa Gini, Liviu Ornea and Paolo Piccinni.