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Charles P Boyer* (cboyer@math.unm.edu). *Sasaki join, transverse Hamiltonian 2-forms, and Sasaki-Einstein metrics*. Preliminary report.

My talk is based on joint work with Christina Tønnesen-Friedman. We apply a general geometrical approach using the Sasaki join construction for quasi-regular contact structures together with transverse Hamiltonian 2-forms to recover Sasaki-Einstein metrics discovered by physicists. Our geometrical approach allows us to give an algorithm for computing the cohomology ring of the Sasaki-Einstein manifolds. We also give formulae describing the homotopy, homeomorphism, and diffeomorphism types. (Received September 15, 2013)