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C. Robin Graham* (robin@math.washington.edu), Department of Mathematics, University of Washington, Box 354350, Seattle, WA 98195-4350. *Ambient metrics, jet isomorphism and parabolic invariant theory in conformal geometry*. Preliminary report.

An ambient metric is a Lorentzian metric in two higher dimensions associated to a conformal class of Riemannian metrics on a manifold. This talk will survey some topics concerning ambient metrics and their applications. Recent progress includes joint work with Kengo Hirachi constructing ambient metrics to all orders in even dimensions with application to an infinite order jet isomorphism theorem for even dimensional conformal geometry and associated parabolic invariant theory. This extends previous work of the speaker and Charles Fefferman for conformal geometry in odd dimensions. (Received March 03, 2006)