1093-53-204   **Hung T Tran*** (`htt4@cornell.edu`) and **Xiaodong Cao**. *The Weyl Tensor of Gradient Ricci Solitons.*

This paper derives several new identities for the Weyl tensor of gradient Ricci solitons, specifically in dimension four. In particular, in the first part, we prove a Bochner-Weitzenböck type formula for the norm of the self-dual Weyl tensor which has several applications including a gap theorem. In the second part, we are mostly concerned with the interaction of different components of curvature, the gradient and Hessian of the potential function. The Weyl tensor arises naturally in these investigations as it is the main distinction in higher dimensions. Applications here are rigidity results (Received August 13, 2013)