Meeting: 1001, Evanston, Illinois, SS 7A, Special Session on Geometric Partial Differential Equations

1001-35-200 **Zheng-Chao Han*** (`zchan@math.rutgers.edu`), Department of Mathematics - Hill Center, Rutgers, The State University of New Jersey, 110 Frelinghuysen Rd, Piscataway, NJ 08854-8019. *Local pointwise and Harnack estimates for solutions of the σ_k curvature equation.*

In this talk we will report some recent work on local pointwise and Harnack estimates for solutions of the fully nonlinear equation $\sigma_k(g^{-1} \circ A_w) = f(x)$ from conformal geometry, under appropriate L^p conditions on $f(x)$. As a consequence, we prove local pointwise estimates for solutions of the σ_2 curvature equation on $4-$ manifolds under small volume condition. (Received August 25, 2004)