1020-14-250   **C Herbert Clemens*** (`clemens@math.ohio-state.edu`), Mathematics Department, Ohio State University, 231 W. 18th Ave., Columbus, OH 43210. *On the geometry of normal functions associated to high-degree hypersurface sections of a Calabi-Yau fourfold.*

We explore the properties of certain generalized normal functions associated families of hypersurfaces of high degree of a fixed Calabi-Yau fourfold W. These include extension of classes of these normal functions over the locus of singular hypersurfaces. A further result is that the 'relative critical locus' of these generalized normal functions lies in the associated family of intermediate Jacobians and constitutes the image the Abel-Jacobi map. (Received August 29, 2006)