1035-42-1938 **Constantine Georgakis*** (cgeorgak@condor.depaul.edu), Department of Mathematics, DePaul University, 2320 N. Kenmore Ave., Chicago, IL 60614-3250. *Multivariate Hausdorff Transformations Generated by the Linear Group.* Preliminary report.

The mapping that takes a function f(x) defined on a Euclidean space to the function Tf(x) which is given by the integral of f(Ax) over the linear group G of invertible n by n matrices with respect to a measure dm(A) of finite total variation on G serves as a multivariate analogue of the classical integral Hausdorff transform on the real line. The continuity properties of this multivariate Hausdorff transformation T on the space Lp, the space of integrated Lipschitz functions and its relation to the Fourier and Fourier-Stieltjes transform in a Euclidean space are discussed. (Received September 20, 2007)