1018-60-29 **Yimin Xiao*** (xiao@stt.msu.edu), Department of Statistics and Probability, A-413 Wells Hall, Michigan State University, East Lansing, MI 48824. *Hausdorff and Packing Dimension Results for Random Fields.* Preliminary report.

Let $X = \{X(t), t \in \mathbb{R}^N\}$ be a random field with values in $\mathbb{R}^d$. We develop measure theoretic methods for determining the Hausdorff and packing dimensions of the image $X(E)$ for any given closed set $E \subset \mathbb{R}^N$. We show that these results are applicable to discontinuous and/or anisotropic random fields. Examples include Gaussian random fields, self-similar stable random fields with stationary increments, the (N, d)-fractional stable sheets and the Rosenblatt process. (Received February 07, 2006)