1144-51-152 **Xiaoye Fu*** (xiaoyefu@mail.ccnu.edu.cn), Wuhan, Hubei 430079, Peoples Rep of China, and **Jean-Pierre Gabardo** and **Hua Qiu**. *Open set condition and Pseudo Hausdorff measure of self-affine IFSs.*

Let A be an $n \times n$ real expanding matrix and $0 \in \mathcal{D} \subset \mathbb{R}^n$ be a finite subset . The family of maps $\{f_d(x) = A^{-1}(x+d)\}_{d\in\mathcal{D}}$ is called a self-affine iterated function system (IFS). The self-affine set $K = K(A, \mathcal{D})$ is the unique compact set determined by $(A, \mathcal{D})$ satisfying $K = \bigcup_{d\in\mathcal{D}} f_d(K)$. In this paper, we show that $\mathcal{H}^s_w(K) > 0$, the pseudo Hausdorff measure of K, is equivalent to that the IFS satisfies the open set condition (OSC), where the pseudo Hausdorff measure $\mathcal{H}^s_w(K)$ was introduced by He and Lau in Math. Nachr 281: 1142-1158, 2008, and $s := n \log^{\#\mathcal{D}}_{|\det A|}$ is called the pseudo similarity dimension of K. This extends the well-known result for the self-similar case that the OSC is equivalent to that K has positive Hausdorff measure. Furthermore, we relate the exact value of pseudo Hausdorff measure $\mathcal{H}^s_w(K)$ to a notion of upper s-density with respect to the pseudo norm $w(x)$ associated with A for the measure $\mu = \lim_{M\to\infty} \sum_{d_0,\ldots,d_{M-1}\in\mathcal{D}} \delta_{d_0+Ad_1+\cdots+A^{M-1}d_{M-1}}$ in the case that $\#\mathcal{D} \le |\det A|$. (Received August 22, 2018)