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Natawat Klamsakul* (klamsak2@illinois.edu). *T1 theorem on non homogeneous spaces by time-frequency analysis*. Preliminary report.

We apply the theory of tiles and trees to the proof of T1 theorem on non homogeneous spaces by Nazarov, Treil and Volberg. This provides an alternative and a more visualized point of view to some parts of the proof. We also prove the estimates from $L^p \times L^q$ to L^r where $1 < p, q < \infty$ and $1/p + 1/q = 1/r$ for the paraproducts arose in the proof under the measures in which doubling condition holds. (Received September 02, 2015)