Author's comment on "Some L^2 Properties of semigroups of measures on Lie groups."

The definition of Lévy measure given in this paper isn't quite right. It is defined to be a Borel measure on $G - \{e\}$ for which

$$\int_{G-\{e\}} \left(\sum_{i=1}^{n} x_i(\sigma)^2 \wedge 1 \right) \nu(d\sigma) < \infty,$$

where $x_i \in C_c^\infty(G)(1 \leq i \leq n)$ and $(x_1, \ldots, x_n)$ are canonical co-ordinates in a nieighbourhood of e. This is similar to the definition that works in $\mathbb{R}^d$ but the problem here is that it tells us nothing about ν outside the union of the supports of the x_is. The correct definition (as in M. Liao "Lévy Processes in Lie Groups", p.12) is to require

$$\int_{G-\{e\}} \left(\sum_{i=1}^{n} x_i(\sigma)^2 \right) \nu(d\sigma) < \infty \text{ and } \nu(U^c) < \infty$$

for all neighbourhoods U of e.

Also for Theorem 3.1, G needs to be a *compact* group equipped with normalised Haar measure. Otherwise, on line 3 of the proof, we will not have $k_t \in L^2(G \times G)$.