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Vignon S Oussa*, Department of Mathematics and Computer Sc, 220 N. Grand Blvd., St.Louis, MO 63103. *Explicit Construction of Normalized Tight Frames and Wavelets for a Class of 2-step Nilpotent Lie Groups*. Preliminary report.

We consider a class of 2-step connected and simply connected nilpotent Lie groups of the type $N = P \rtimes M$ where P and M are abelian Lie groups and M acts on P by automorphisms. We consider the left regular representation restricted to a multiplicity-free closed subspace of $L^2(N)$ which we denote by H . We show how to construct normalized tight frames associated with fields of multivariate Gabor systems. Furthermore, we also obtain an explicit construction of continuous wavelets associated with the left regular representation restricted to H . (Received September 10, 2011)