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Richard C Penney* (rcpmathpurdue@gmail.com), West Lafayette, IN 47906, and **Roman Urban** (roman.f.urban@gmail.com). *The Poisson kernel on k -meta-abelian NA groups.*

A solvable Lie group S is an NA group if $S = N \rtimes A$ where N is a c.s.c nilpotent Lie group and A is isomorphic with \mathbb{R}^k . We say that S is k -meta-abelian if there is a sequence of closed, abelian subgroups $N_j \subset N$ such that

$$S = N_1 \rtimes (N_2 \rtimes (\cdots \rtimes (N_{k-1} \rtimes (N_k \rtimes A))).$$

Examples of k -meta-abelian groups include the NA part of the automorphism group of any bounded homogeneous tube domain in \mathbb{C}^n and the NA part of a classical Lie group of type D_ℓ , $\ell \geq 3$, B_ℓ , and A_ℓ . In this talk we describe an explicit probabilistic formula for the heat kernel for “the Laplacian” of a k -meta-abelian NA group and use it to produce growth estimates for the Poisson kernels in several special classes of k -meta-abelian NA groups. (Received July 25, 2014)