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**John A Simanyi\***, simanyi@math.ucr.edu. *A Hodge-type decomposition of holomorphic Poisson cohomology on nilmanifolds.*

The existence of a holomorphic Poisson bivector on a generalized complex manifold allows us to develop cohomology built upon a classic  $\bar{\partial}$ -operator and the adjoint action of the bivector. This, in turn, has an associated spectral sequence, where the first page is the Dolbeault cohomology with coefficients in the sheaf of germs of holomorphic polyvector fields. Considering nilmanifolds that admit abelian complex structures, under certain constraints this sequence degenerates on the first page, and will admit a Hodge type decomposition of the holomorphic Poisson hypercohomology. In this talk, based on a joint publication with Yat Sun Poon, we investigate the construction and constraints, and provide some examples as time permits. (Received September 26, 2017)