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**Zhiwei Yun\*** ([zhiweiyun@gmail.com](mailto:zhiweiyun@gmail.com)), 10 Hillhouse Ave, New Haven, CT 06511. *Perverse sheaves arising from cyclically graded Lie algebras and DAHA.*

Let  $G$  be a simple and simply-connected algebraic group whose Lie algebra  $\mathfrak{g}$  carries a  $\mathbf{Z}/m\mathbf{Z}$ -grading. The grading gives a subgroup  $G_0$  which acts on each graded piece  $\mathfrak{g}_i$ . Consider the derived category of  $G_0$ -equivariant sheaves on  $\mathfrak{g}_i$  that are supported on the nilpotent cone. In special cases, this category contains Fourier transforms of character sheaves and canonical bases arising from quivers.

We give a block decomposition of this category in terms of cuspidal data in the same spirit as the generalized Springer correspondence. To each block, we also attach a graded DAHA with unequal parameters and construct modules of it from objects in the block. (Received August 30, 2016)