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**Andrew Cavaness\*** ([andrew.cavaness@mavs.uta.edu](mailto:andrew.cavaness@mavs.uta.edu)) and **Dimitar Grantcharov**. *Bounded weight modules of the Lie algebra of vector fields on the affine space*. Preliminary report.

In this talk we will discuss weight modules of the Lie algebra  $W_2$  of vector fields on  $\mathbb{C}^2$ . A classification of all simple weight modules of  $W_2$  with a uniformly bounded set of weight multiplicities is provided. To achieve this classification we introduce a new family of generalized tensor  $W_n$ -modules. This is a joint work with D. Grantcharov. (Received January 16, 2017)