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Anna M Romanov* (anna.romanov@sydney.edu.au) and **Emily Cliff**. *Twisted D-modules on the affine flag variety and Whittaker modules*. Preliminary report.

We propose a construction of twisted equivariant D-modules on the affine flag variety whose global sections have the structure of negative level Whittaker modules for an affine Kac-Moody Lie algebra. We prove non-existence of such modules in the case of non-degenerate nilpotent character. In this talk, I'll describe results that we have established so far, focusing on the example of SL_2 . This is joint work with Emily Cliff (Sydney). (Received March 04, 2021)