

Arithmetic of shtukas

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My aim is to explain how one can use shtukas to prove an analog of the BSD conjecture for Drinfeld modules over function fields. This analog was discovered by Taelman who established it for the coefficient ring $\mathbb{F}_q[t]$. Shtukas become indispensable in the proof of this conjecture for arbitrary coefficient rings. In addition, the shtuka-theoretic approach is quite conceptual and resonates well with the Tamagawa number conjecture for motives.