Convolution of Function Field L-Series

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Function field L-series in positive characteristic were introduced by Carlitz in the 1930's, where he studied special values of what is now called the Carlitz zeta function. Later in the 1970's and 1980's, Goss developed a general theory of function field valued L-functions associated with a Drinfeld module, defined through an Euler product using the characteristic polynomial of Frobenius acting on its Tate module. More recently, Pellarin has defined L-functions that are deformations of Carlitz's zeta function and that exhibit a number of fascinating special value properties. In this talk we will investigate convolutions of Goss and Pellarin L-series and present results on special values in the case of rank 2 Drinfeld modules. Joint with W.-C. Huang.