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Weyl's equidistribution theorem in function fields

Finding a proper function field analogue to Weyl's theorem on the equidistribution of polynomial sequences is a problem that was originally considered by Carlitz in 1952. As noted by Carlitz, Weyl's classical differencing methods can only handle polynomials with degree less than the characteristic of the field. In this talk, we discuss some recent methods which avoid this "characteristic barrier", and we show the existence of polynomials with extremal equidstributive behaviour.

This is joint work with Yu-Ru Liu, Thái Hoàng Lê and Trevor D. Wooley.