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Siyu Liu, Frank Kschischang and **Felice Manganiello*** (manganm@clemsn.edu), Department of Mathematical Sciences, Clemson University, Clemson, SC 29634-0975. *Kötter interpolation in skew polynomial rings.*

Skew polynomials are a noncommutative generalization of ordinary polynomials that, in recent years, have found applications in coding theory and cryptography. Viewed as functions, skew polynomials have a well-defined evaluation map; however, little is known about skew-polynomial interpolation. In this talk, we apply Kötter's interpolation framework to free modules over skew polynomial rings. As a special case, we introduce a simple interpolation algorithm akin to Newton interpolation for ordinary polynomials. (Received August 09, 2013)