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Alan Koch* (akoch@agnesscott.edu), Department of Mathematics, 141 E. College Ave.,
Decatur, GA 30030. *Cyclic Breuil modules and Hopf orders in characteristic p* . Preliminary report.

Let k be a perfect field of characteristic $p > 0$. We use the theory of Breuil modules over regular local rings to describe a class of Hopf algebras over the discrete valuation ring $k[[t]]$. We relate these to Hopf algebras over the residue field k and the field of fractions $k((t))$. (Received September 22, 2011)