

1173-60-96

**Yanghui Liu\*** ([yanghui.liu@baruch.cuny.edu](mailto:yanghui.liu@baruch.cuny.edu)), One Bernard Baruch Way 55 Lexington Avenue, New York, NY 10010. *Numerical approximations for rough differential equations.*

The rough paths theory provides a framework for differential equations driven by functions with very low regularities, and it has applications in quantitative finance, statistical mechanics and so on. The numerical approximation is a crucial step to applying such differential equation models in practice. The first part of this talk is an introduction of the recent results on various numerical methods for stochastic differential equations driven by fractional Brownian motions. In the second part I will discuss some Malliavin differentiability results of a modified Euler scheme, and then apply these results to the weak convergence problem of the modified Euler scheme. (Received September 17, 2021)