1110-60-105 **Thomas R. Cass*** (thomas.cass@imperial.ac.uk), Department of Mathematics, Imperial College London, 180 Queen's Gate, London, SW7 2AZ, United Kingdom, and **Marcel Ogrodnik**, Department of Mathematics, Imperial College London, 180 Queen's Gate, London, United Kingdom. *Tail estimates for Markovian rough paths.*

The accumulated p-variation $M(\mathbf{x})$ of a p-rough path $\mathbf{x}$ over $[0,t]$ is given by

$$\sup_{\substack{D=\{0=t_0<t_1<\ldots t_r=t\} \\ ||\mathbf{x}||_{p\text{-}var,[t_i,t_{i+1}]}\leq 1}} \sum_{i=1}^{r} ||\mathbf{x}||^p_{p\text{-}var,[t_i,t_{i+1}]}.$$

This functional arises naturally as an optimal pathwise growth estimate to solutions to rough differential equations, and to higher order terms in the signature of $\mathbf{x}$ (i.e. the canonical Lyons lift). This has implications when $\mathbf{x}=\mathbf{x}(\omega)$ is random when some important applications demand precise tail estimates for the random variable $M(\mathbf{x}(\omega))$. In this talk we work with a general class of Markovian rough paths and prove an almost-Gaussian tail estimate for $M(\mathbf{x}(\omega))$. We comment on the relevance of these estimates for some of the applications mentioned above. (Received February 13, 2015)