

Abstract Submitted
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Feedback Loops in Ultrasensitive Cascades¹ SYED JIBRAN HAIDER, University of Richmond — Understanding the flow of signals through stochastic bio-circuits of molecular interactions is important for both systems and synthetic biology. Here we analyze the stochastic signals produced by a bio-circuit that contains a feedback loop. The bio-circuit we study is a modification of the ultrasensitive mitogen-activated protein kinase (MAPK) cascade. The analysis is based on moment closure technique based on a novel procedure of splitting nonlinear nodes that represent product interactions in the bio-circuit's molecular diagram.

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