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Yasong Jin* (jinyasong@math.ku.edu), 1625 Ellis Dr. Apt 6, Lawrence, KS 66044, and
Soshant Bali, Tyrone Duncan and **Victor S. Frost.** *Conditioned Fractional Brownian Motion
and its Applications in Telecommunications.*

The fractional Brownian model proposed by Norros is fundamental for analyzing the queueing performance with the self-similar and long-range dependent traffic. In this paper, the congestion events that occur as a result of this traffic model is defined and studied. A conditioned fractional Brownian motion is proposed to simplify the analysis. As an application the duration of congestion events in the fractional Brownian model is evaluated. (Received September 24, 2005)