# OCCUPATION TIME PROBLEM FOR MULTIFRACTIONAL BROWNIAN MOTION

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*Abstract:* In this paper, by using a Fourier analytic approach, we investigate sample path properties of the fractional derivatives of multifractional Brownian motion local times. We also show that those additive functionals satisfy a property of local asymptotic self-similarity. As a consequence, we derive some local limit theorems for the occupation time of multifractional Brownian motion in the space of continuous functions.

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