SOME INEQUALITIES FOR CONTINUOUS MARTINGALES

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If $X(t)$, $t \geq 0$, is a continuous martingale we let $M = \sup |X(t)|$ and let Q be the quadratic variation of X. Burkholder has recently revisited and sharpened some of his and Gundy's celebrated moment inequalities relating M and Q. I will talk about his work and a follow up paper by Jiyeon Suh and myself. For the continuous martingale associated with a harmonic function in the disc, M and Q are called the Brownian maximal and area functions, and the relevance of the martingale results in this setting will be described.