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# Constructive martingale representation using Functional Itô Calculus: a local martingale extension

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**Abstract**

The constructive martingale representation theorem and the vertical derivative of Functional Itô Calculus are extended, from the space of square integrable martingales, to a space of local martingales. The relevant filtration is the augmented filtration generated by a Wiener process.

*Keywords:* Functional Itô Calculus; Martingale representation; Vertical derivative.

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