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ADMISSIBLE TRANSLATIONS OF THE BROWNIAN MOTION ON A LIE GROUP

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Abstract: The paper provides a new proof of Shigekawa's theorem characterizing admissible translations of the Wiener measure on a Lie group. We prove Shigekawa's conditions to be necessary finding the "derivative" of the translation as a linear functional on a Hilbert space, applying integrals of 1-forms along the paths of stochastic processes. We use the classical Girsanov theorem as the main tool while obtaining the sufficiency in a straightforward way. No advanced theorems concerning absolute continuity of measures induced by stochastic processes are used, as was in Shigekawa's original proof.

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