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Unitary transformations, empirical processes and distribution free testing. (English)

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Summary: The main message in this paper is that there are surprisingly many different Brownian bridges, some of them familiar, some of them less familiar. Many of these Brownian bridges are very close to Brownian motions. Somewhat loosely speaking, we show that all the bridges can be conveniently mapped onto each other, and hence to one “standard” bridge.

The paper shows that, as a consequence of this, we obtain a unified theory of distribution free testing in \mathbb{R}^d , both for discrete and continuous cases, and for simple and parametric hypotheses.

MSC:

60J65 Brownian motion

62G10 Nonparametric hypothesis testing

Cited in 1 Review
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Keywords:

Brownian bridges; empirical processes; g -projected Brownian motions; goodness-of-fit tests; parametric hypothesis; unitary operators

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