

## CENTRAL LIMIT THEOREM IN HÖLDER SPACES

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*Abstract:* Stochastic processes are considered within the framework of Hölder spaces  $H_\alpha^0$  as paths spaces. Using Ciesielski's isomorphisms between  $H_\alpha^0$  and sequences spaces via the Faber Schauder triangular functions allows us to express our basic assumptions in terms of second differences of the processes, giving more flexibility. We obtain general conditions for the existence of a version with paths in  $H_\alpha^0$  and the tightness of sequences of random elements in these spaces. Central limit theorems in  $H_\alpha^0$  are established and convergence rates are given with respect to Prohorov and bounded Lipschitz metrics. As an application, we study the weak Holder convergence of the characteristic empirical process.

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**Key words and phrases:** -

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