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ON MONOTONE VARIATIONAL INEQUALITIES WITH RANDOM DATA

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Abstract. We study monotone variational inequalities with random data and give measurability, existence and uniqueness results in the general framework of a Hilbert space setting. Then we turn to the more structured case where a finite Karhunen-Loève expansion leads to a separation of the random and the deterministic variables. Here we present a discretization procedure with respect to the random variable based on averaging and truncation and on the approximation of the feasible random set. At last, we establish norm convergence of the approximation procedure.

Mathematics subject classification (2000): 60H25, 49J40, 47H5, 49J55, 49M25.
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