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Algorithm design for mixed-integer black-box optimization problems with uncertainty

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List of Abbreviations

ABS	Antilock Braking System
AF	artificial function
ARP	Active Rollover Protection
AUC	Area Under the Curve
BBOB	Black-Box Optimization Benchmarking
BIPOP	bi-population
CI	Confidence Interval
CIS	Confidence Interval Sequence
CMA-ES	Covariance Matrix Adaptation Evolution Strategy
CMA-ESwM	CMA-ES with Margin
CRG	curved regular grid
CS	Confidence Set
CSA	cumulative step length adaptation
CV	characteristic value
DA	Dynamic Allocation
EA	Evolutionary Algorithm
ECDF	Empirical Cumulative Distribution Function
ELA	Exploratory Landscape Analysis
ERT	Expected Running Time
ES	Evolutionary Strategy
ESC	Electronic Stability Control
int-EA	Evolutionary Algorithm for Integer Programming
IPOP	increasing population
PCA	Principal Component Analysis
PCR	Probability of Correct Ranking

PCS	Probability of Correct Selection
RaS	Ranking and Selection
RCR	ratio of correct ranking
RI	Rank Interval
RQ	research question
SA	Static Allocation
SMAC	Sequential Model-based Algorithm Configuration
SMBO	sequential model-based optimization
SR	Success Rate
SWD	Sine with dwell
TPE	Tree-structured Parzen Estimator
UQiR	Uncertainty Quantification in Ranking
UQiRS	Uncertainty Quantification in Ranking and Selection
UQiS	Uncertainty Quantification in Selection
VDCS	vehicle dynamics control system
WoR	Without Replacement