

On Dealing with Uncertainties from Kriging
Models in Offline Data-driven Evolutionary
Multiobjective Optimization (Supplementary
Material)

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December 3, 2018

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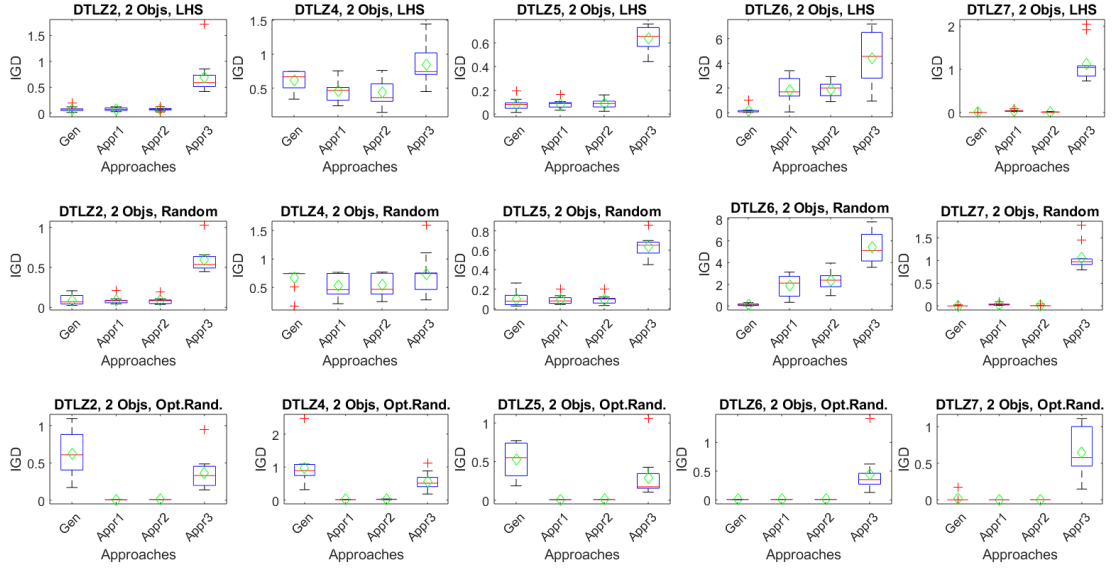


Figure 1: Box plot of IGD for 11 runs for two objective problems. "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.(Opt.Rand is optimal-random sampling)

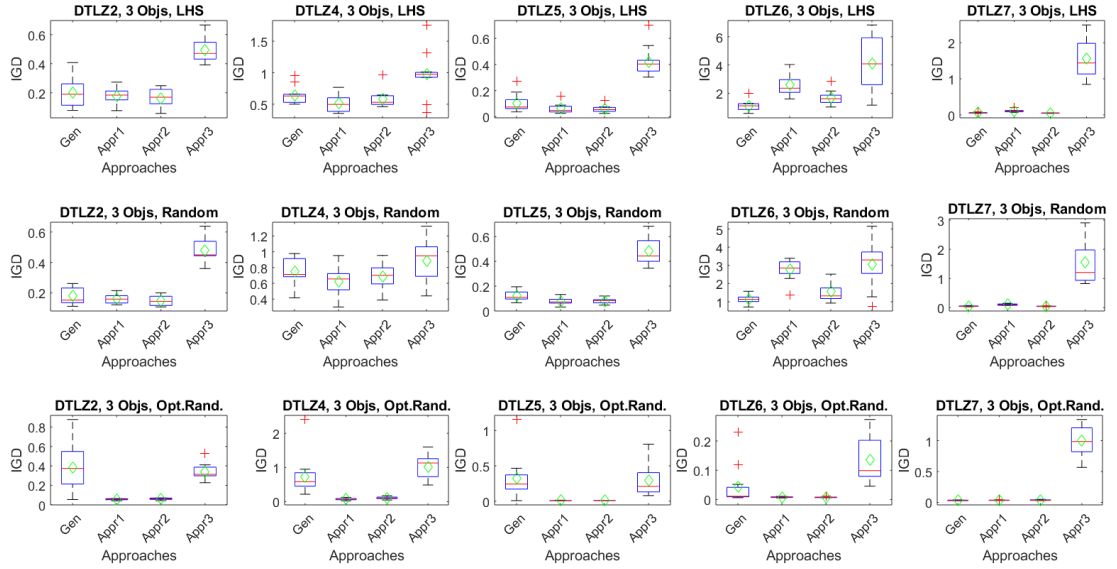


Figure 2: Box plot of IGD for 11 runs for three objective problems. "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.(Opt.Rand is optimal-random sampling)

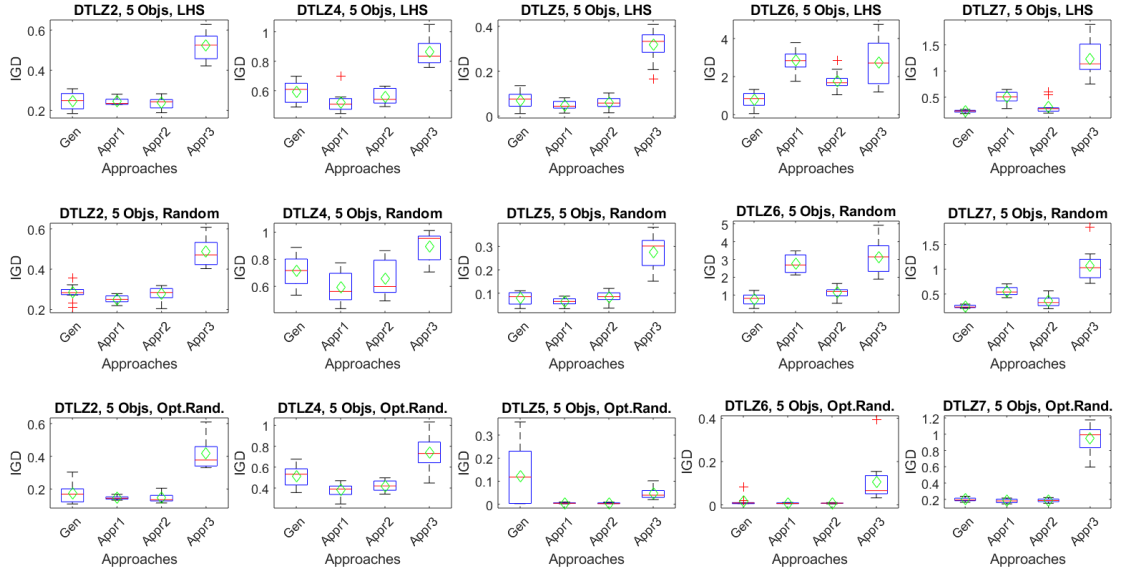


Figure 3: Box plot of IGD for 11 runs for five objective problems. "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively. (Opt.Rand is optimal-random sampling)

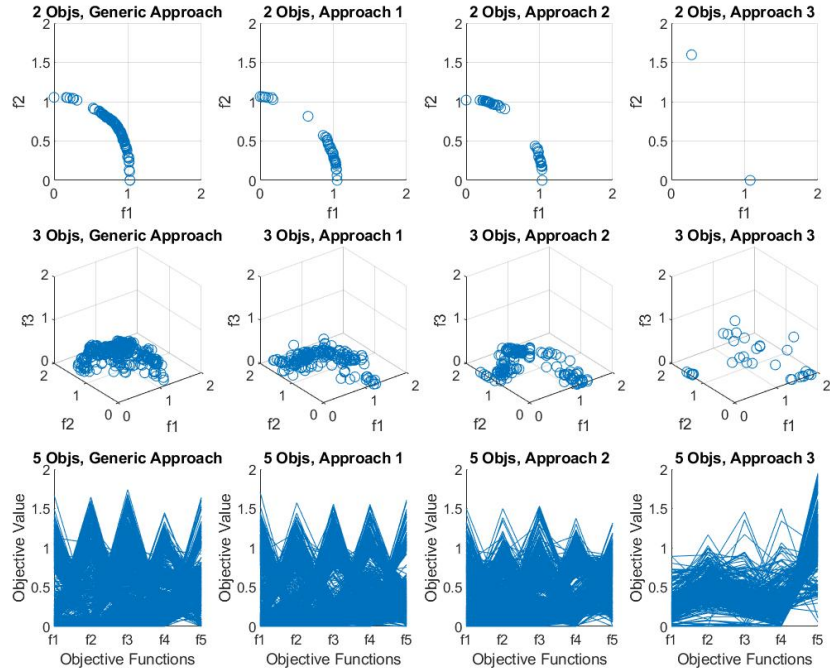


Figure 4: Final solutions obtained of the run with the median IGD value using different approaches for uniform random sampling for DTLZ2 Problem.

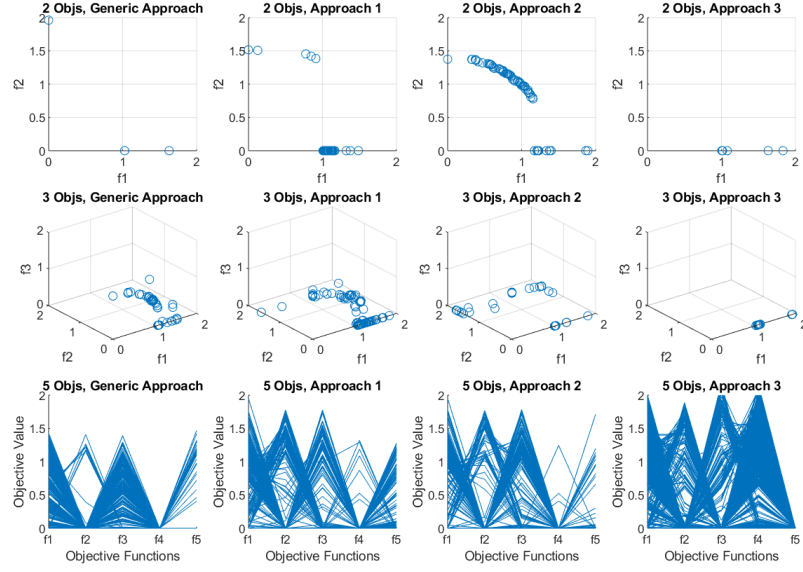


Figure 5: Final solutions obtained of the run with the median IGD value using different approaches for LHS sampling for DTLZ4 Problem.

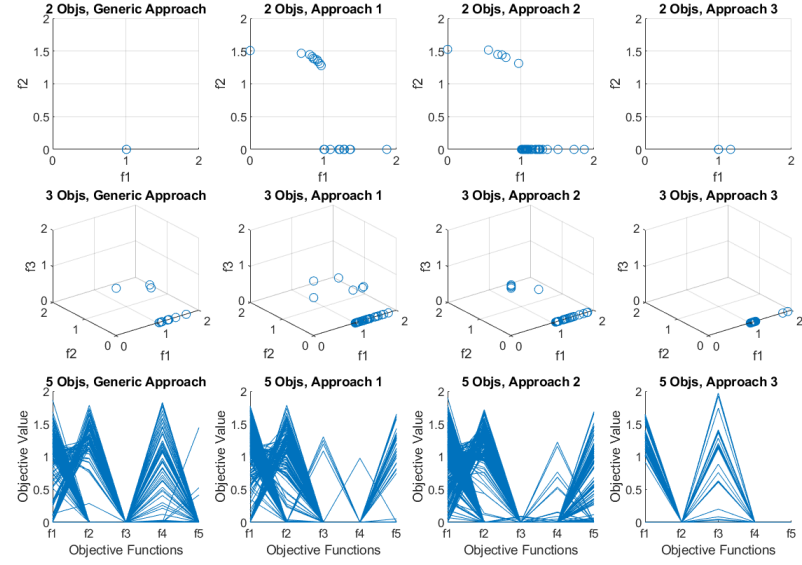


Figure 6: Final solutions obtained of the run with the median IGD value using different approaches for uniform random sampling for DTLZ4 Problem.

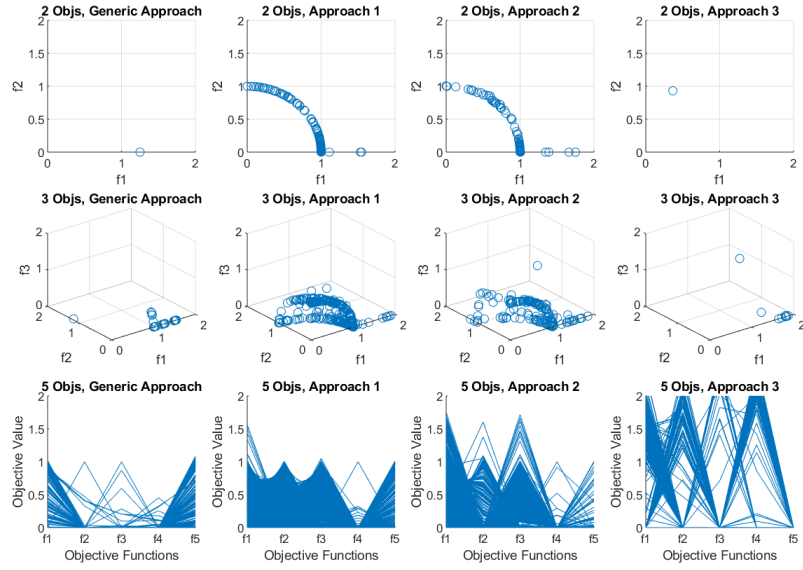


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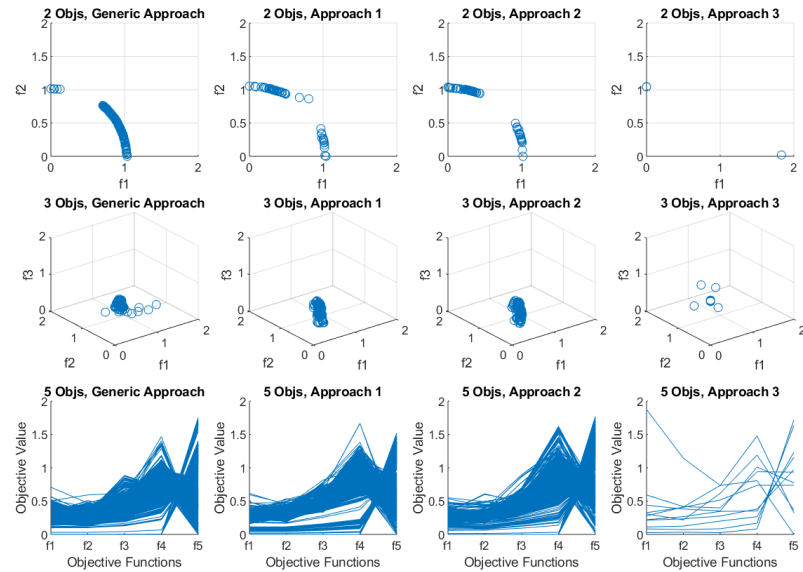


Figure 8: Final solutions obtained of the run with the median IGD value using different approaches for LHS sampling for DTLZ5 Problem.

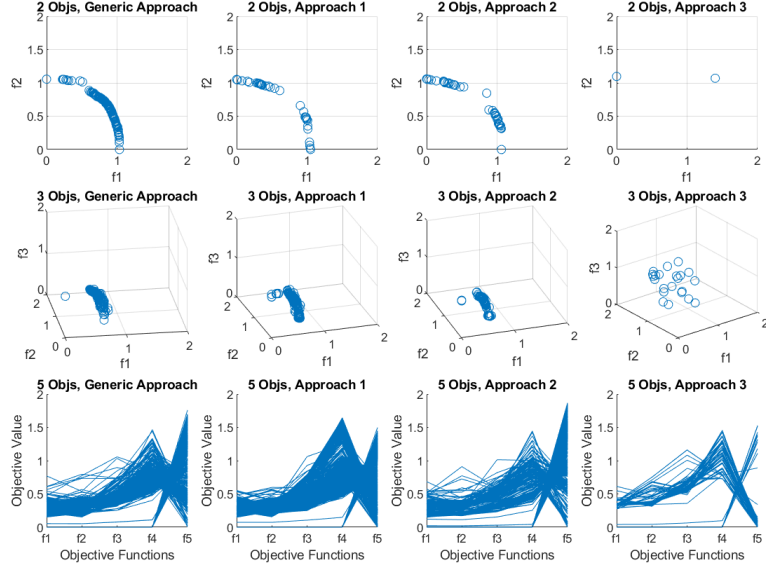


Figure 9: Final solutions obtained of the run with the median IGD value using different approaches for uniform random sampling for DTLZ5 Problem.

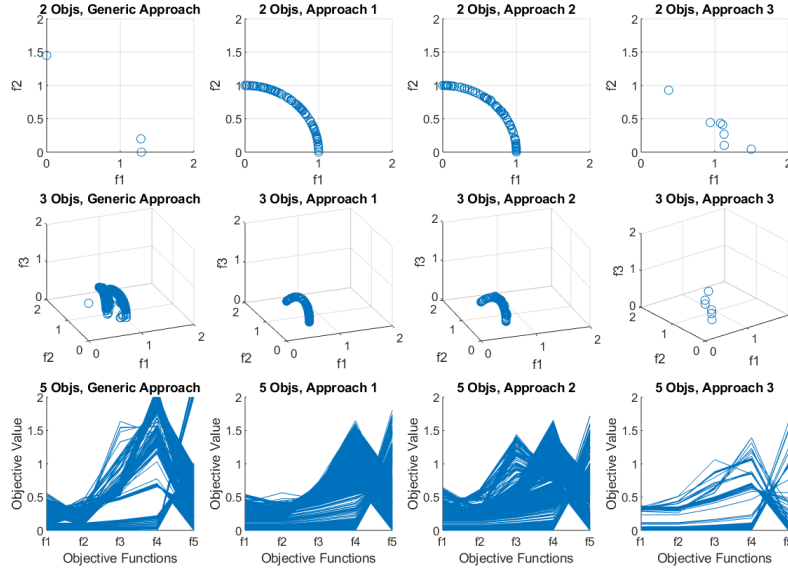


Figure 10: Final solutions obtained of the run with the median IGD value using different approaches for optimal-random sampling for DTLZ5 Problem.

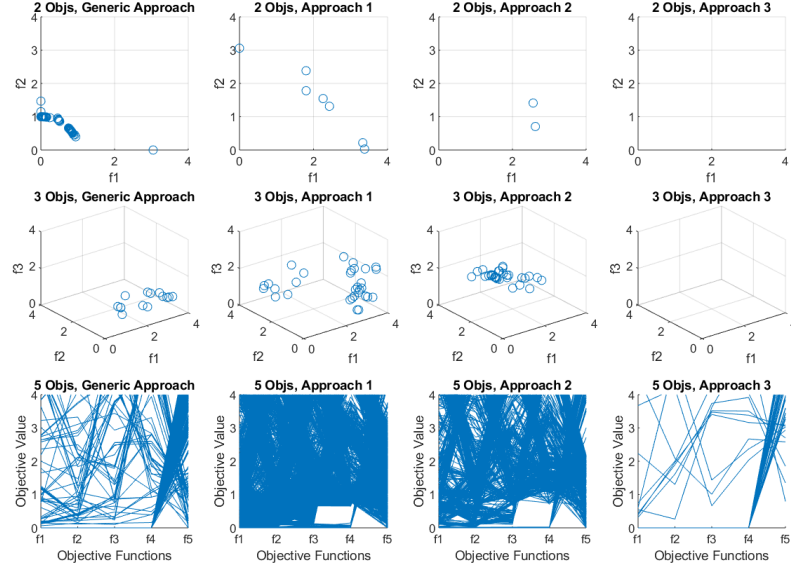


Figure 11: Final solutions obtained of the run with the median IGD value using different approaches for LHS sampling for DTLZ6 Problem.

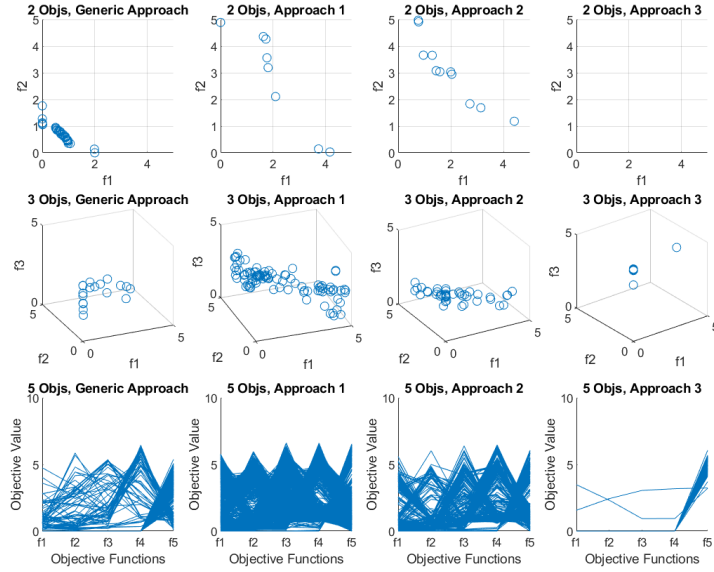


Figure 12: Final solutions obtained of the run with the median IGD value using different approaches for uniform random sampling for DTLZ6 Problem.

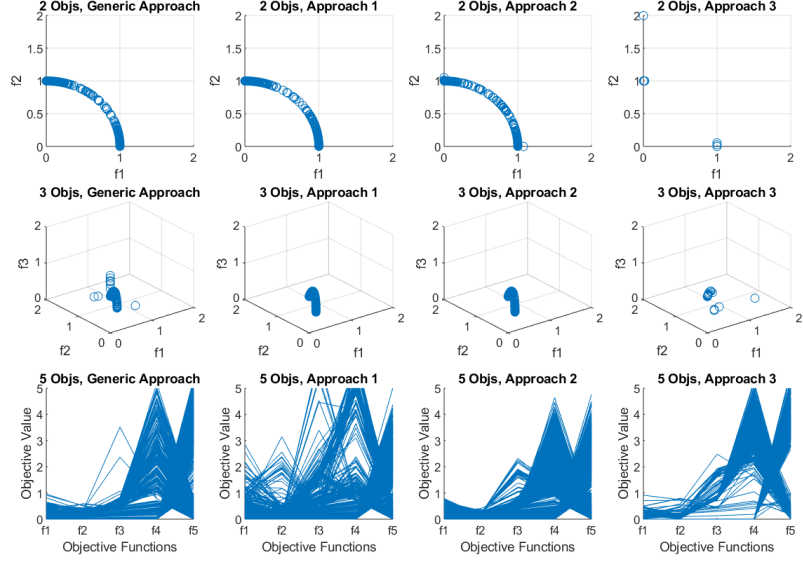


Figure 13: Final solutions obtained of the run with the median IGD value using different approaches for optimal-random sampling for DTLZ6 Problem.

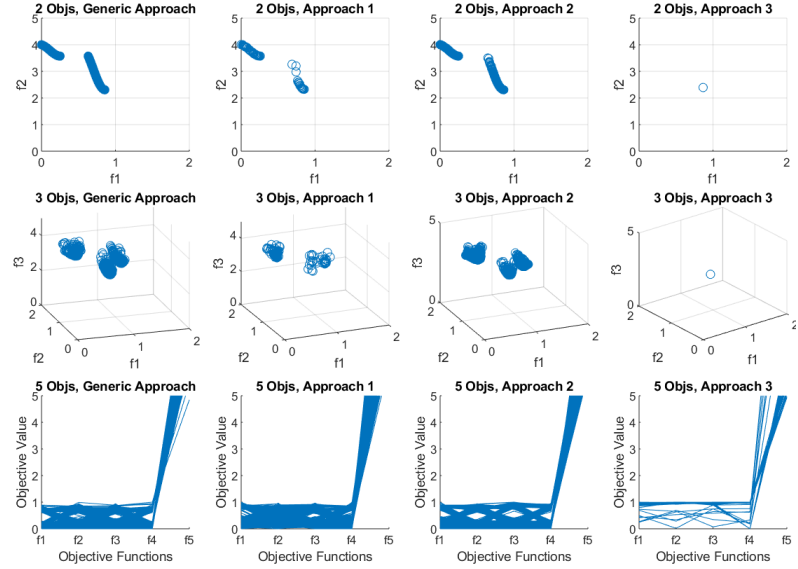


Figure 14: Final solutions obtained of the run with the median IGD value using different approaches for LHS sampling for DTLZ7 Problem.

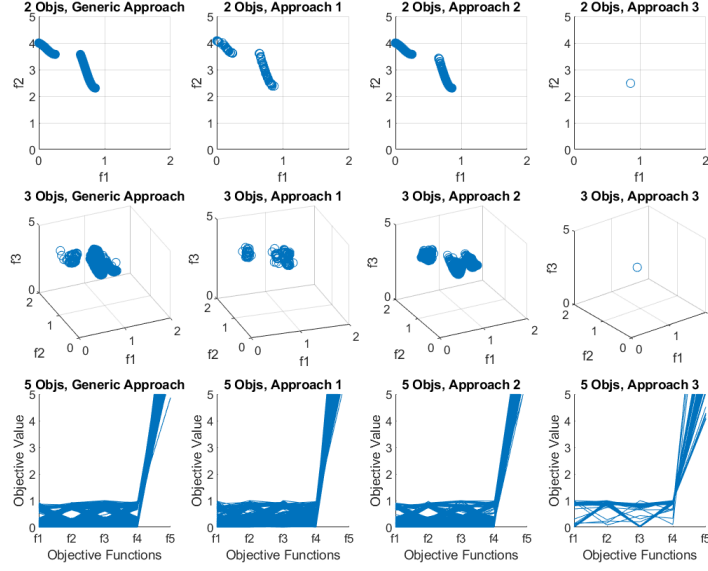


Figure 15: Final solutions obtained of the run with the median IGD value using different approaches for uniform random sampling for DTLZ7 Problem.

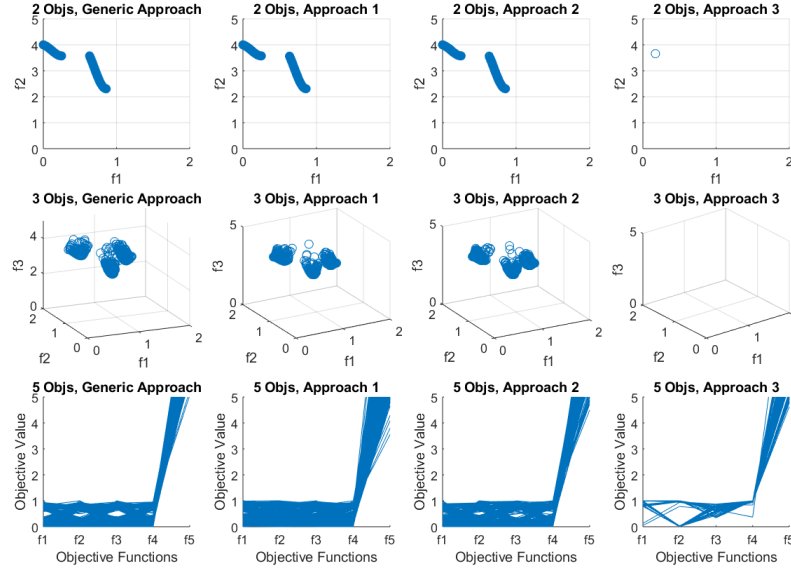


Figure 16: Final solutions obtained of the run with the median IGD value using different approaches for optimal-random sampling for DTLZ7 Problem.

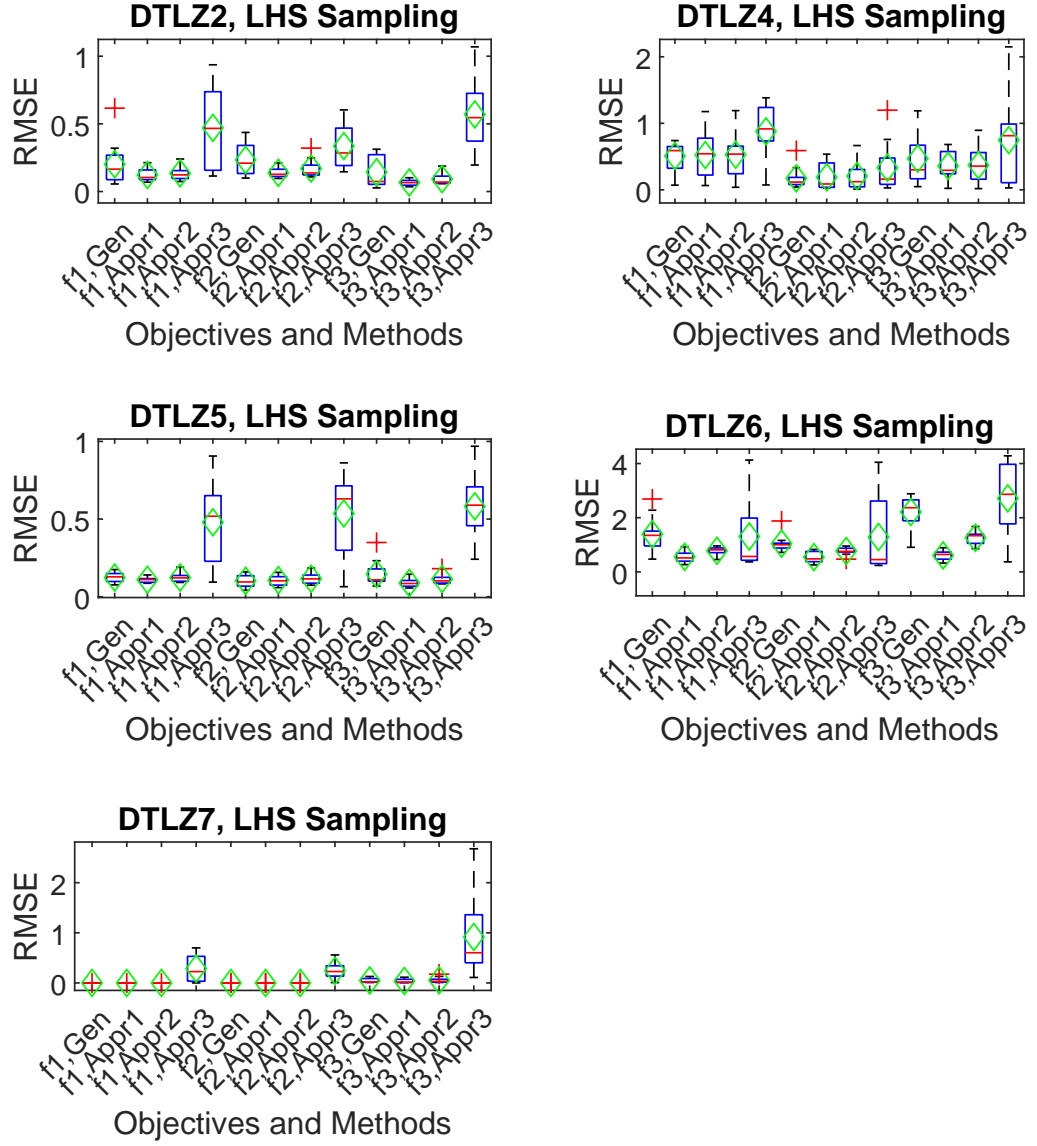


Figure 17: RMSE of the final solutions for three objective problems, LHS sampling. Here f1, f2 and f3 are the objectives and "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

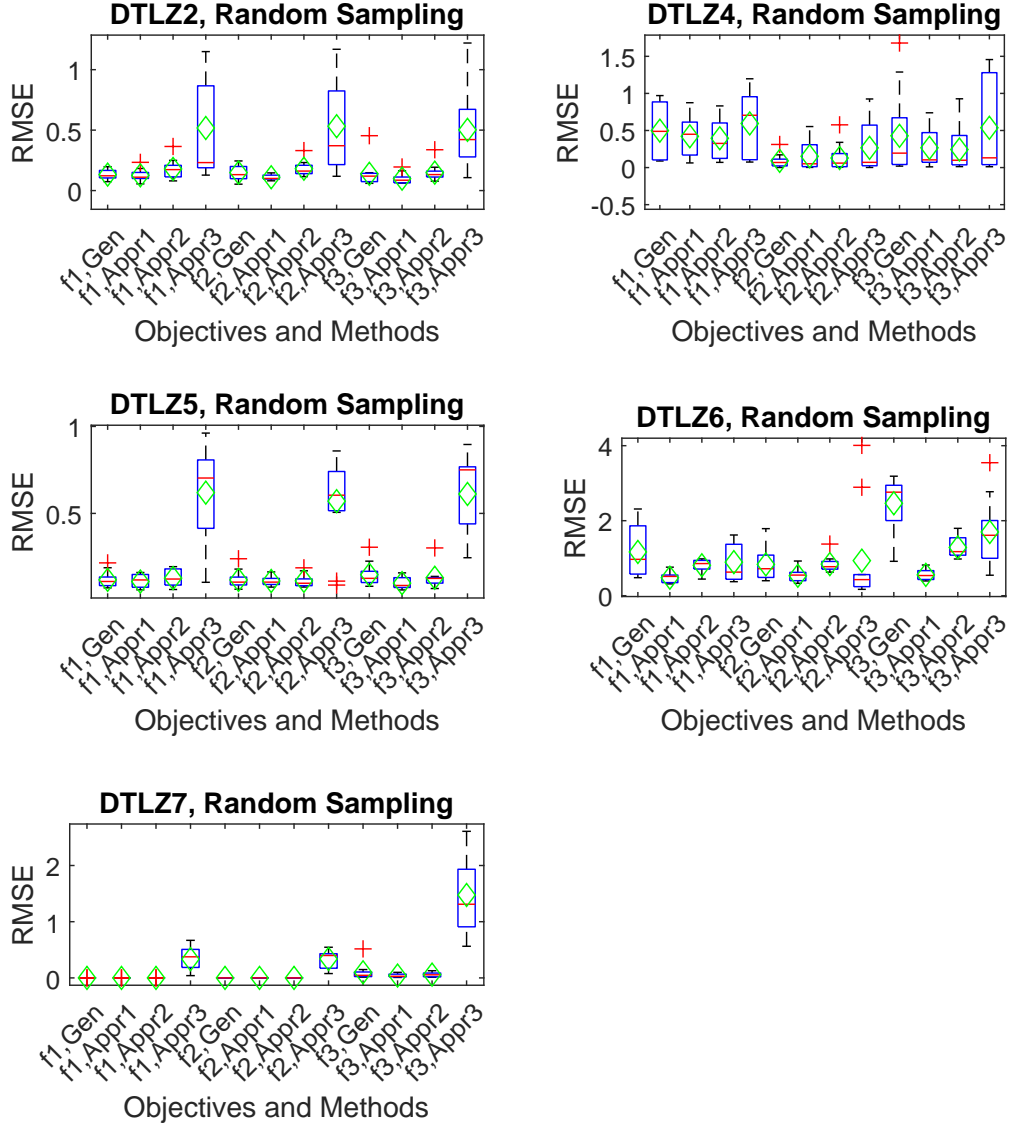


Figure 18: RMSE of the final solutions for three objective problems, Random sampling. Here f1, f2 and f3 are the objectives and "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

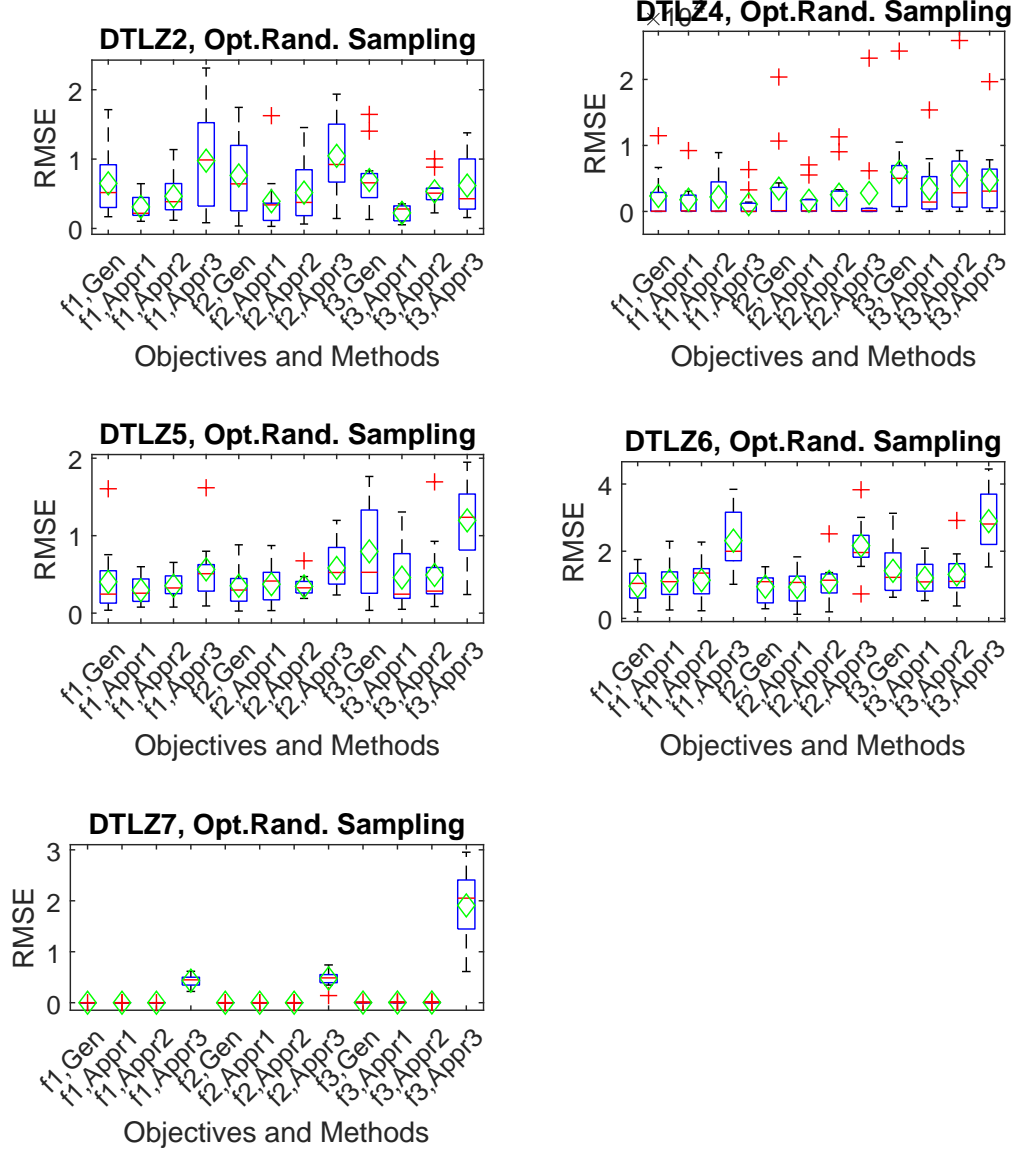


Figure 19: RMSE of the final solutions for three objective problems, optimal-random sampling. Here f1, f2 and f3 are the objectives and "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

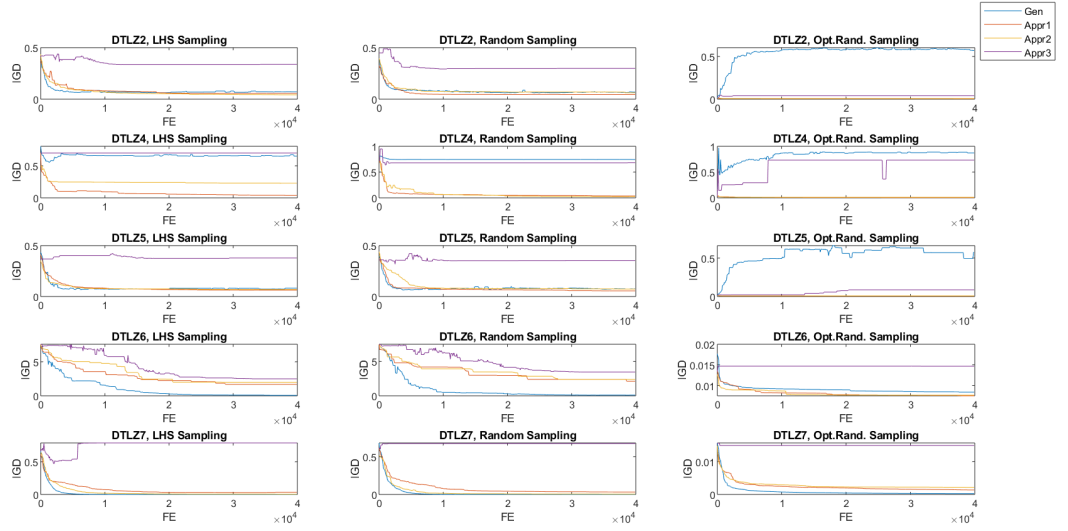


Figure 20: IGD variation with function evaluations for two objective problems. Here "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

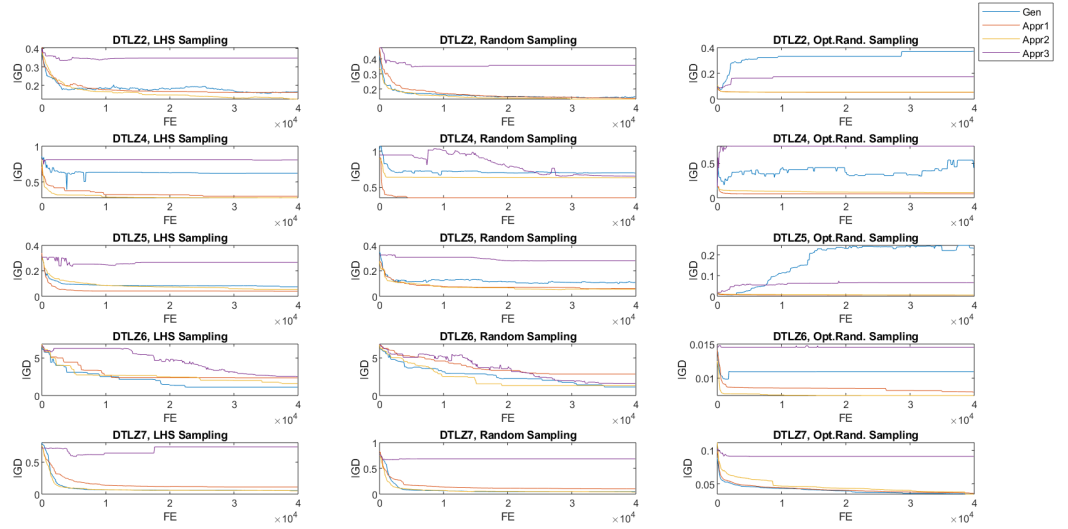


Figure 21: IGD variation with function evaluations for three objective problems. Here "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

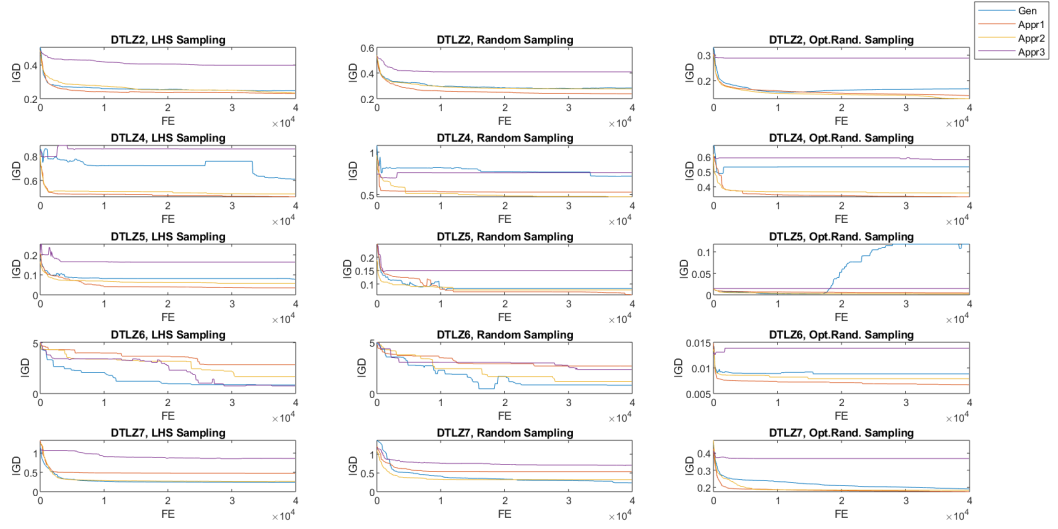


Figure 22: IGD variation with function evaluations for five objective problems. Here "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

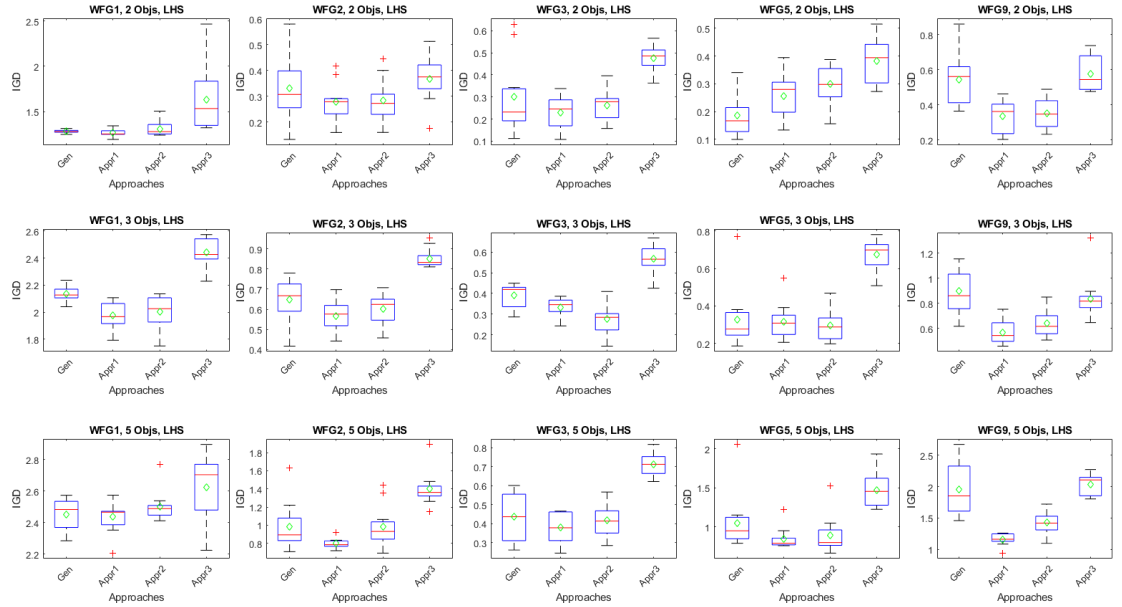


Figure 23: Box plot of IGD for 11 runs for WFG1-3, WFG5 and WFG9 problems using LHS sampling. "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

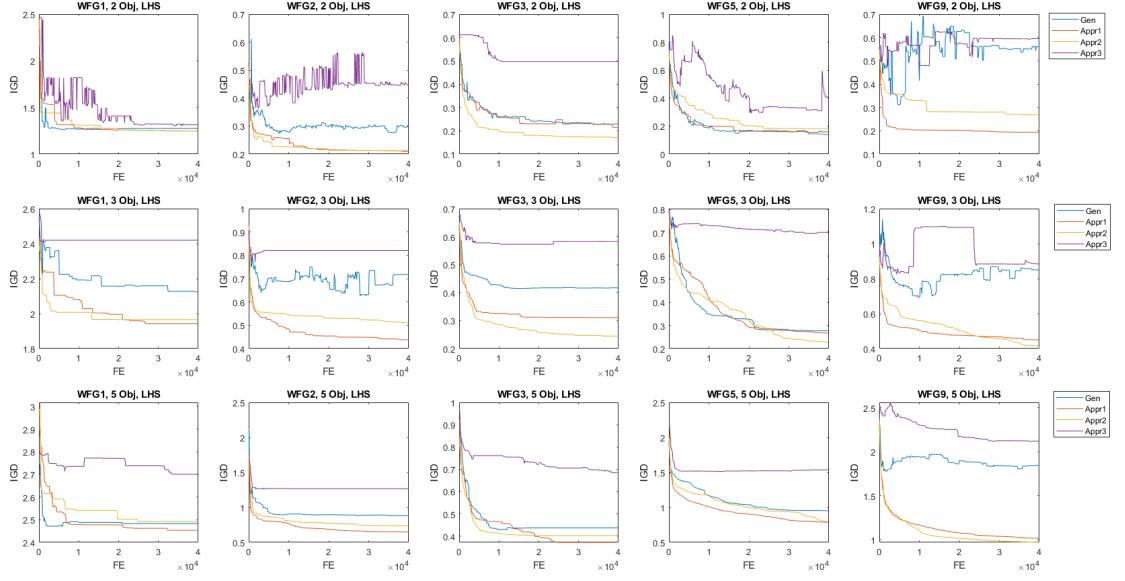


Figure 24: IGD variation with function evaluations for WFG1-3, WFG5 and WFG9, for 2,3 and 5 objective problems for LHS sampling. Here "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

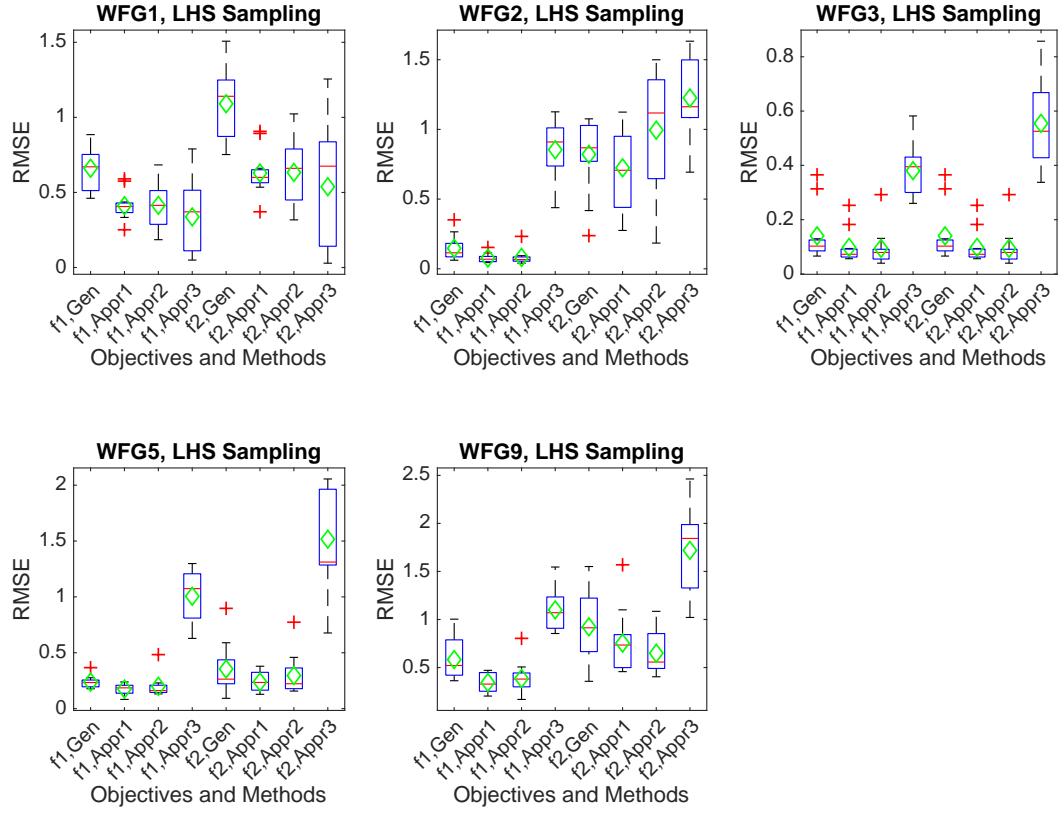


Figure 25: RMSE of the final solutions for two objective problems, LHS sampling. Here f1 and f2 are the objectives and "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

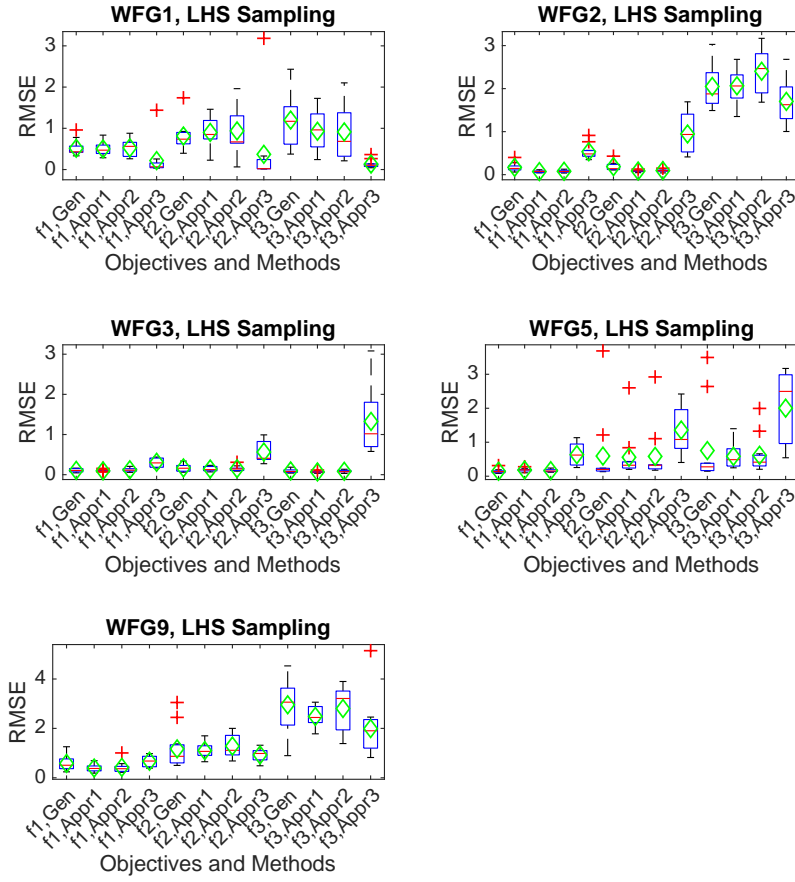


Figure 26: RMSE of the final solutions for three objective problems, LHS sampling. Here f1, f2 and f3 are the objectives and "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

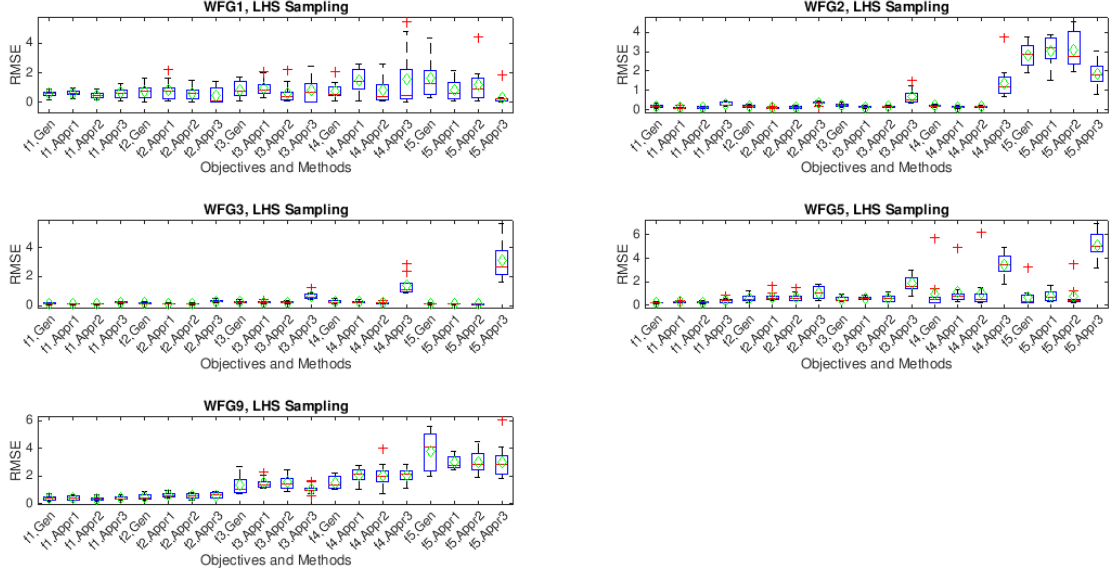


Figure 27: RMSE of the final solutions for five objective problems, LHS sampling. Here f1 - f5 are the objectives and "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

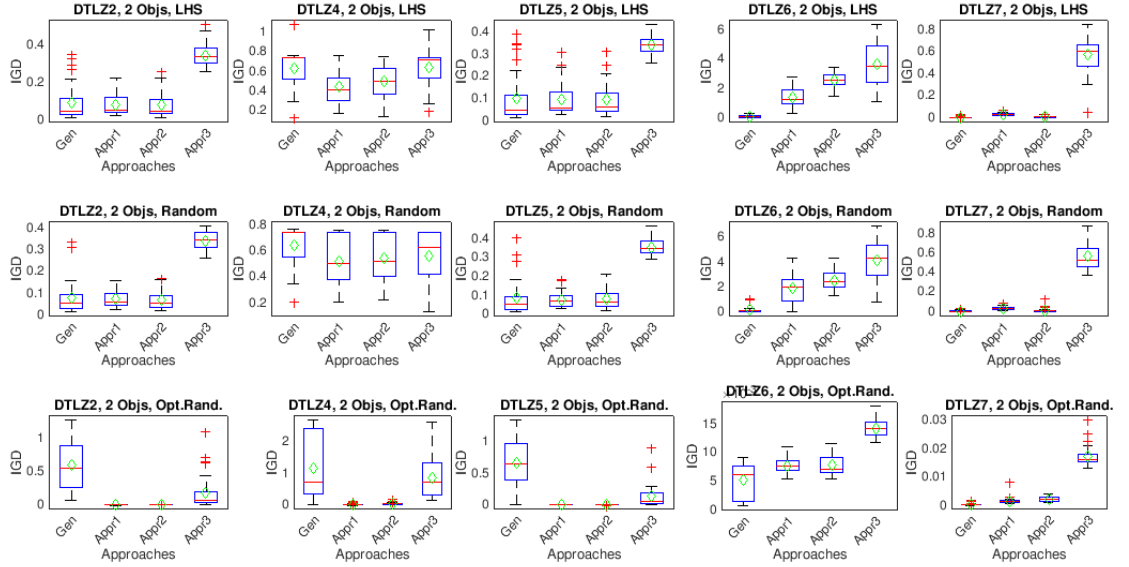


Figure 28: Box plot of IGD for 31 runs for DTLZ problems for 2 objective problems. "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

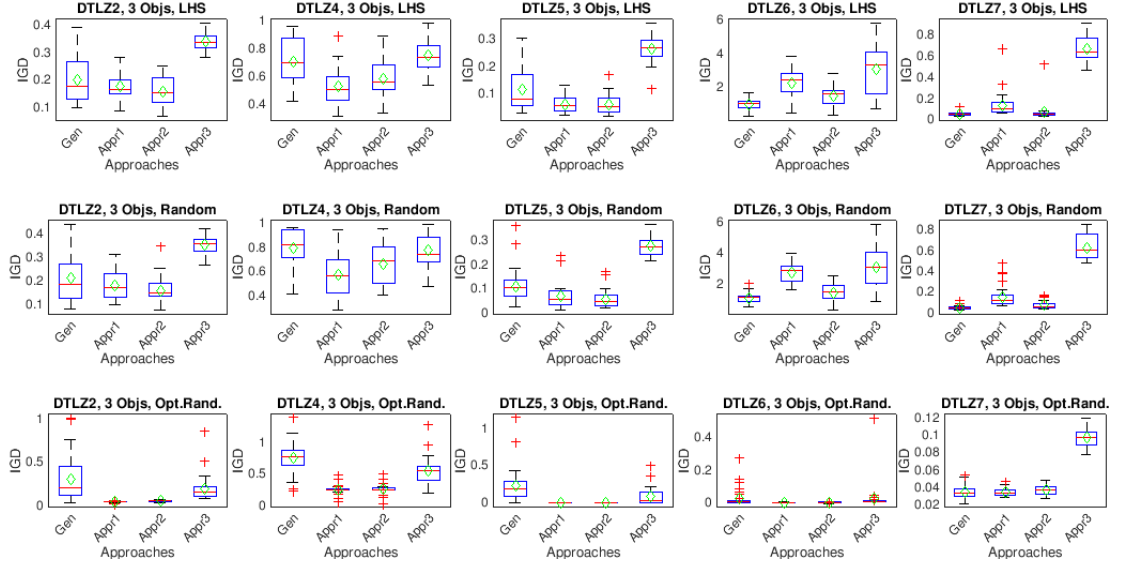


Figure 29: Box plot of IGD for 31 runs for DTLZ problems for 3 objective problems. "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

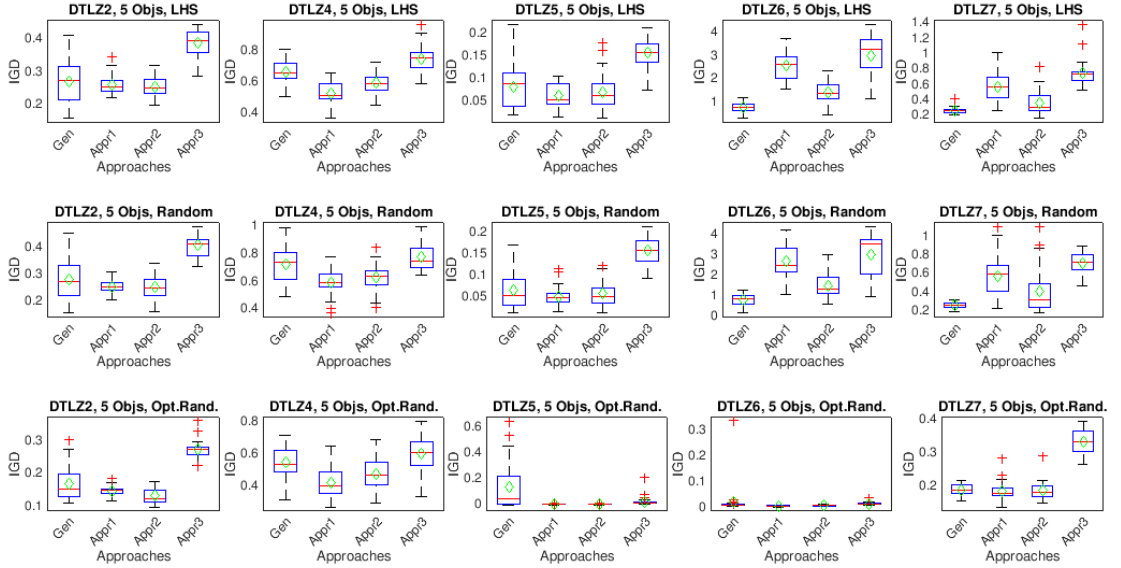


Figure 30: Box plot of IGD for 31 runs for DTLZ problems for 5 objective problems. "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

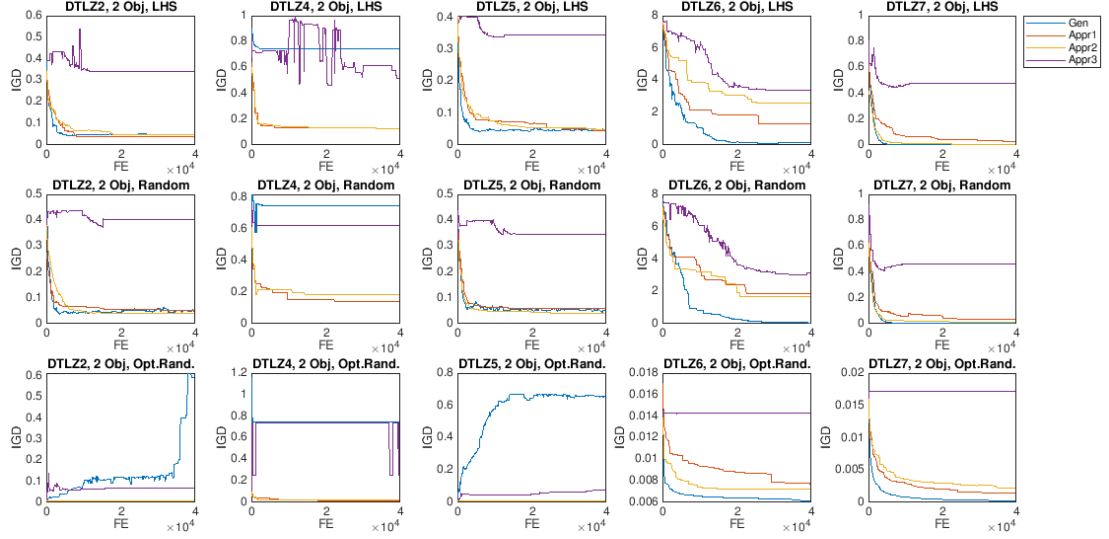


Figure 31: IGD variation with function evaluations for DTLZ problems for 2 objective problems. Here "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

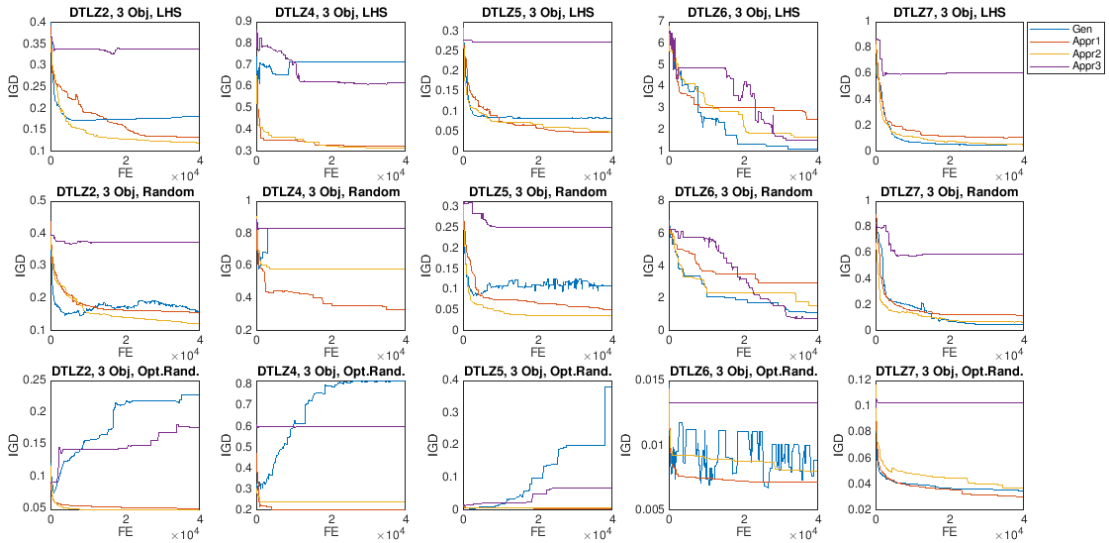


Figure 32: IGD variation with function evaluations for DTLZ problems for 3 objective problems. Here "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.

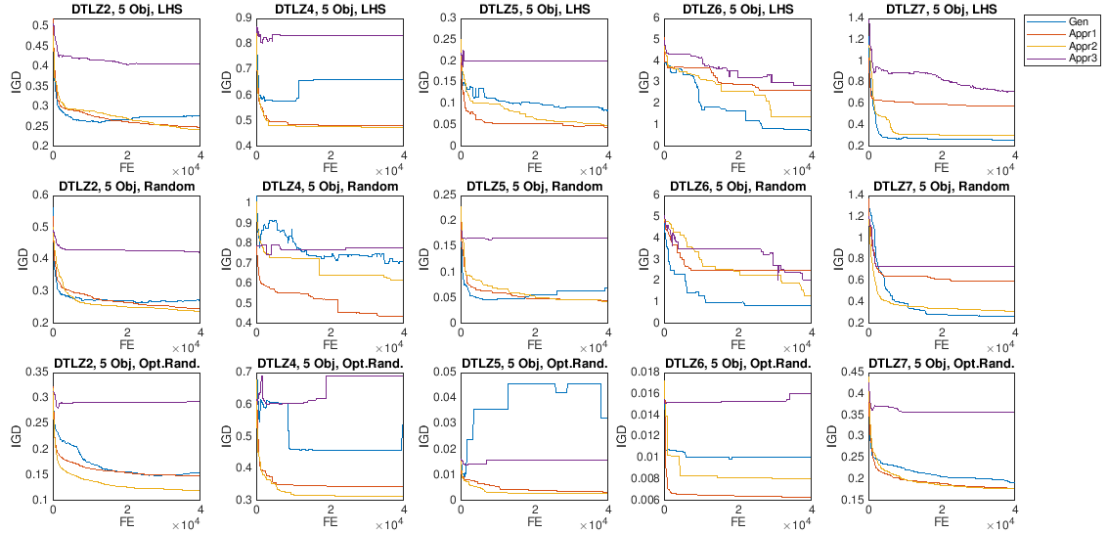


Figure 33: IGD variation with function evaluations for DTLZ problems for 5 objective problems. Here "Gen", "Appr1", "Appr2" and "Appr3" are the Generic, Approach 1, Approach 2 and Approach 3 respectively.