

# Objective Archive Management

## NSGA3 partition results

Hypervolume, spread, and non-dominated size of the solution sets found using different partition sizes with the Das-Dennis approach in NSGA3. The population size was kept at 1000. This means that for the 10 objective problems, the number of reference vectors was larger than the population size, which could affect NSGA-III's performance.

		# Part.	3	4	6	9
<b>DTLZ5</b>	<b>5</b>	<b>Size</b>	12	30	45	131
		<b>HV</b>	0.999	0.999	0.999	0.999
		<b>Spread</b>	0.023	0.028	0.027	0.030
	<b>10</b>	<b>Size</b>	126	250	506	1236
		<b>HV</b>	0.999	0.999	0.999	0.995
		<b>Spread</b>	0.052	0.053	0.049	0.067
<b>DTLZ6</b>	<b>5</b>	<b>Size</b>	35	70	210	680
		<b>HV</b>	0.999	0.999	0.999	0.999
		<b>Spread</b>	0.141	0.143	0.143	0.149
	<b>10</b>	<b>Size</b>	220	714	1435	1649
		<b>HV</b>	0.999	0.999	0.998	0.997
		<b>Spread</b>	0.23	0.231	0.243	0.243
<b>WFG3</b>	<b>5</b>	<b>Size</b>	31	53	79	174
		<b>HV</b>	0.863	0.869	0.897	0.892
		<b>Spread</b>	0.457	0.542	0.468	0.533
	<b>10</b>	<b>Size</b>	42	75	173	653
		<b>HV</b>	0.129	0.168	0.270	0.136
		<b>Spread</b>	0.738	0.887	1.822	0.891
<b>WFG7</b>	<b>5</b>	<b>Size</b>	35	70	210	710
		<b>HV</b>	0.557	0.611	0.654	0.662
		<b>Spread</b>	1.859	1.86	1.862	1.871
	<b>10</b>	<b>Size</b>	220	715	1371	1622
		<b>HV</b>	0.410	0.466	0.413	0.368
		<b>Spread</b>	3.844	3.856	3.753	3.504