

Table 1: Control Experiments.

Algorithm	Framework	Evaluation	Global Best	Name
BA	UNIOA	sync	sync	UNIOA_BA_syncE_syncG
		async		UNIOA_BA_asyncE_syncG
	SEPARATE	sync	sync	SEP_BA_syncE_syncG
		async	sync	SEP_BA_asyncE_syncG
			async	SEP_BA_asyncE_asyncG
GOA	UNIOA	sync	sync	UNIOA_GOA_syncE_syncG
		async		UNIOA_GOA_asyncE_syncG
	SEPARATE	sync	sync	SEP_GOA_syncE_syncG
		async	sync	SEP_GOA_asyncE_syncG
			async	SEP_GOA_asyncE_asyncG
MBO	UNIOA	sync	sync	UNIOA_MBO_syncE_syncG
		async		UNIOA_MBO_asyncE_syncG
	SEPARATE	sync	sync	SEP_MBO_syncE_syncG
		async	sync	SEP_MBO_asyncE_syncG
			async	SEP_MBO_asyncE_asyncG
BOA	UNIOA	sync	sync	UNIOA_BOA_syncE_syncG
		async		UNIOA_BOA_asyncE_syncG
	SEPARATE	sync	sync	SEP_BOA_syncE_syncG
		async	sync	SEP_BOA_asyncE_syncG
			async	SEP_BOA_asyncE_asyncG
PSO	UNIOA	sync	sync	UNIOA_PSO_syncE_syncG
		async		UNIOA_PSO_asyncE_syncG
	SEPARATE	sync	sync	SEP_PSO_syncE_syncG
		async	sync	SEP_PSO_asyncE_syncG
			async	SEP_PSO_asyncE_asyncG

Table 2: Control Experiments.

Algorithm	Framework	Evaluation	Name
CSA	UNIOA	sync	UNIOA_CSA_syncE
		async	UNIOA_CSA_asyncE
	SEPARATE	sync	SEP_CSA_syncE
		async	SEP_CSA_asyncE
MFO	UNIOA	sync	UNIOA_MFO_syncE
		async	UNIOA_MFO_asyncE
	SEPARATE	sync	SEP_MFO_syncE
		async	SEP_MFO_asyncE