OPTIMAL PID PARAMETERS		WORKLOADS PATTERN							
WORKLOADS	PARAMTERS (K_p, K_i, K_d) ($\times 10^{-2}$)	L-S-C	L-S-U	H-S-C	H-S-U	L-F-C	L-F-U	H-F-C	H-F-U
L-S-C	(2.500,0.050,0.100)	0.064	0.089	12.553	0.341	0.128	0.135	12.382	0.274
L-S-U	(2.500,0.005,0.000)	0.108	0.058	16.137	1.426	0.157	0.125	16.221	2.143
H-S-C	(0.210,0.005,0.010)	0.192	0.119	0.339	0.237	0.232	0.254	0.497	0.517
H-S-U	(0.210,0.050,0.000)	0.198	0.079	0.355	0.231	0.378	0.298	0.359	0.346
L-F-C	(3.100,0.050,0.100)	0.082	0.085	12.394	0.380	0.070	0.104	12.488	0.387
L-F-U	(3.900,0.050,0.100)	0.086	0.079	16.154	1.770	0.104	0.084	15.896	2.226
H-F-C	(0.700,0.050,0.010)	0.104	0.119	0.553	0.232	0.132	0.159	0.256	0.227
H-F-U	(0.700,0.050,0.000)	0.085	0.105	0.475	0.215	0.129	0.142	0.334	0.162
FUZZY PID		0.083	0.058	0.375	0.234	0.096	0.085	0.357	0.172

Table 1 Impact of PID parameters for different workload patterns. The left column lists the optimal PID parameters for each workload pattern; each element of the table refers to the imbalance produced by the corresponding PID parameters for the specific workload pattern. The last row shows the imbalance produced by our fuzzy PID approach.