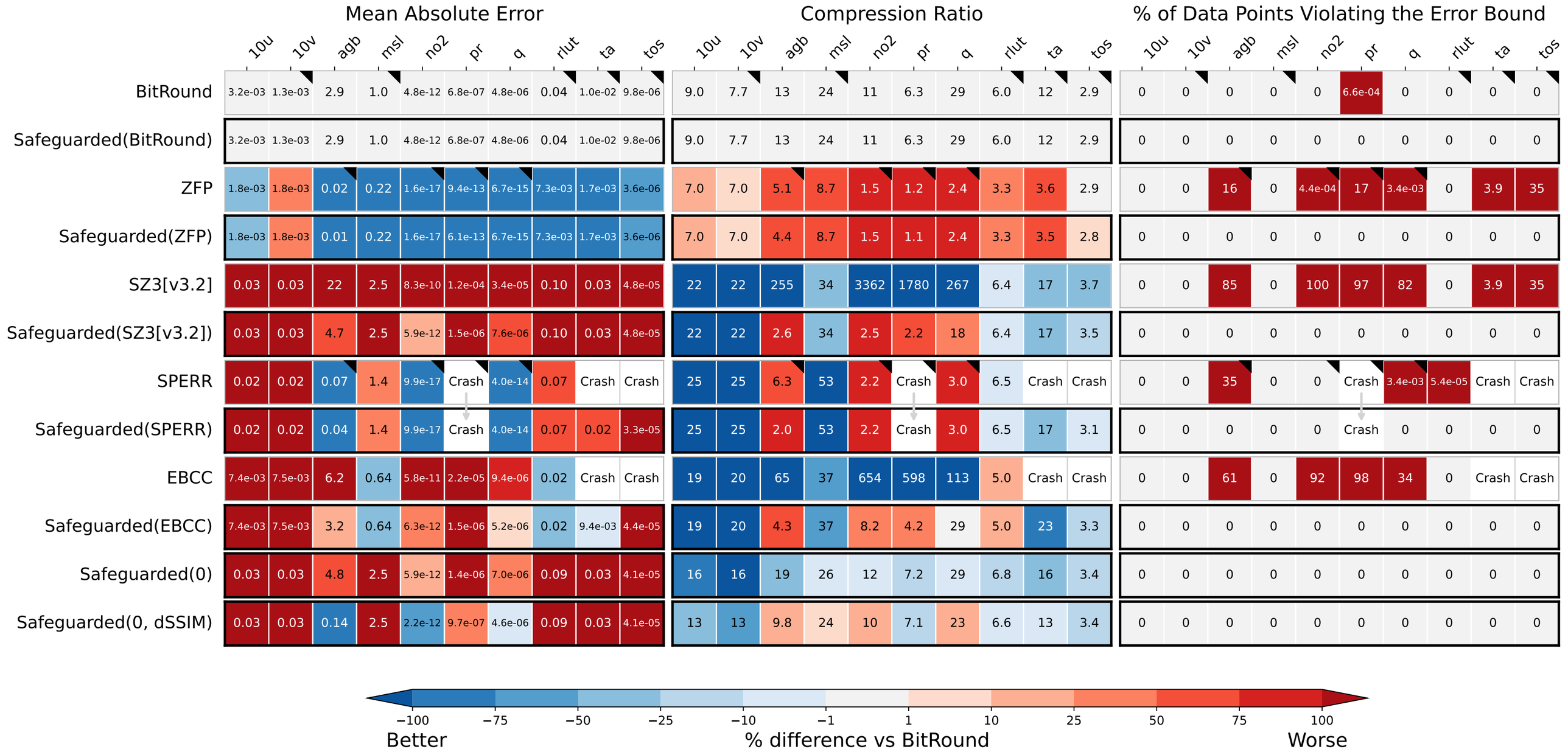
Mean Absolute Error
Compression Ratio
% of Data Points Violating the Error Bound
10u
10v
agb
msl
no2
pr
q
rlut
ta
tos
BitRound
3.2e-03 1.3e-03 2.9 1.0 4.8e-12 6.8e-07 4.8e-06 0.04 1.0e-02 9.8e-06
9.0 7.7 13 24 11 6.3 29 6.0 12 2.9
0 0 0 0 0 6.6e-04 0 0 0 0
Safeguarded(BitRound)
3.2e-03 1.3e-03 2.9 1.0 4.8e-12 6.8e-07 4.8e-06 0.04 1.0e-02 9.8e-06
9.0 7.7 13 24 11 6.3 29 6.0 12 2.9
0 0 0 0 0 0 0 0 0 0
ZFP
1.8e-03 1.8e-03 0.02 0.22 1.6e-17 9.4e-13 6.7e-15 7.3e-03 1.7e-03 3.6e-06
7.0 7.0 5.1 8.7 1.5 1.2 2.4 3.3 3.6 2.9
0 0 16 0 4.4e-04 17 3.4e-03 0 3.9 35
Safeguarded(ZFP)
1.8e-03 1.8e-03 0.01 0.22 1.6e-17 6.1e-13 6.7e-15 7.3e-03 1.7e-03 3.6e-06
7.0 7.0 4.4 8.7 1.5 1.1 2.4 3.3 3.5 2.8
0 0 0 0 0 0 0 0 0 0
SZ3[v3.2]
0.03 0.03 22 2.5 8.3e-10 1.2e-04 3.4e-05 0.10 0.03 4.8e-05
22 22 255 34 3362 1780 267 6.4 17 3.7
0 0 85 0 100 97 82 0 3.9 35
Safeguarded(SZ3[v3.2])
0.03 0.03 4.7 2.5 5.9e-12 1.5e-06 7.6e-06 0.10 0.03 4.8e-05
22 22 2.6 34 2.5 2.2 18 6.4 17 3.5
0 0 0 0 0 0 0 0 0 0
SPERR
0.02 0.02 0.07 1.4 9.9e-17 Crash 4.0e-14 0.07 Crash Crash
25 25 6.3 53 2.2 Crash 3.0 6.5 Crash Crash
0 0 35 0 0 Crash 3.4e-03 5.4e-05 Crash Crash
Safeguarded(SPERR)
0.02 0.02 0.04 1.4 9.9e-17 Crash 4.0e-14 0.07 0.02 3.3e-05
25 25 2.0 53 2.2 Crash 3.0 6.5 17 3.1
0 0 0 0 0 Crash 0 0 0 0
EBCC
7.4e-03 7.5e-03 6.2 0.64 5.8e-11 2.2e-05 9.4e-06 0.02 Crash Crash
19 20 65 37 654 598 113 5.0 Crash Crash
0 0 61 0 92 98 34 0 Crash Crash
Safeguarded(EBCC)
7.4e-03 7.5e-03 3.2 0.64 6.3e-12 1.5e-06 5.2e-06 0.02 9.4e-03 4.4e-05
19 20 4.3 37 8.2 4.2 29 5.0 23 3.3
0 0 0 0 0 0 0 0 0 0
Safeguarded(0)
0.03 0.03 4.8 2.5 5.9e-12 1.4e-06 7.0e-06 0.09 0.03 4.1e-05
16 16 19 26 12 7.2 29 6.8 16 3.4
0 0 0 0 0 0 0 0 0 0
Safeguarded(0, dSSIM)
0.03 0.03 0.14 2.5 2.2e-12 9.7e-07 4.6e-06 0.09 0.03 4.1e-05
13 13 9.8 24 10 7.1 23 6.6 13 3.4
0 0 0 0 0 0 0 0 0 0
−100 −75 −50 −25 −10 −1 1 10 25 50 75 100
Better
% difference vs BitRound
Worse