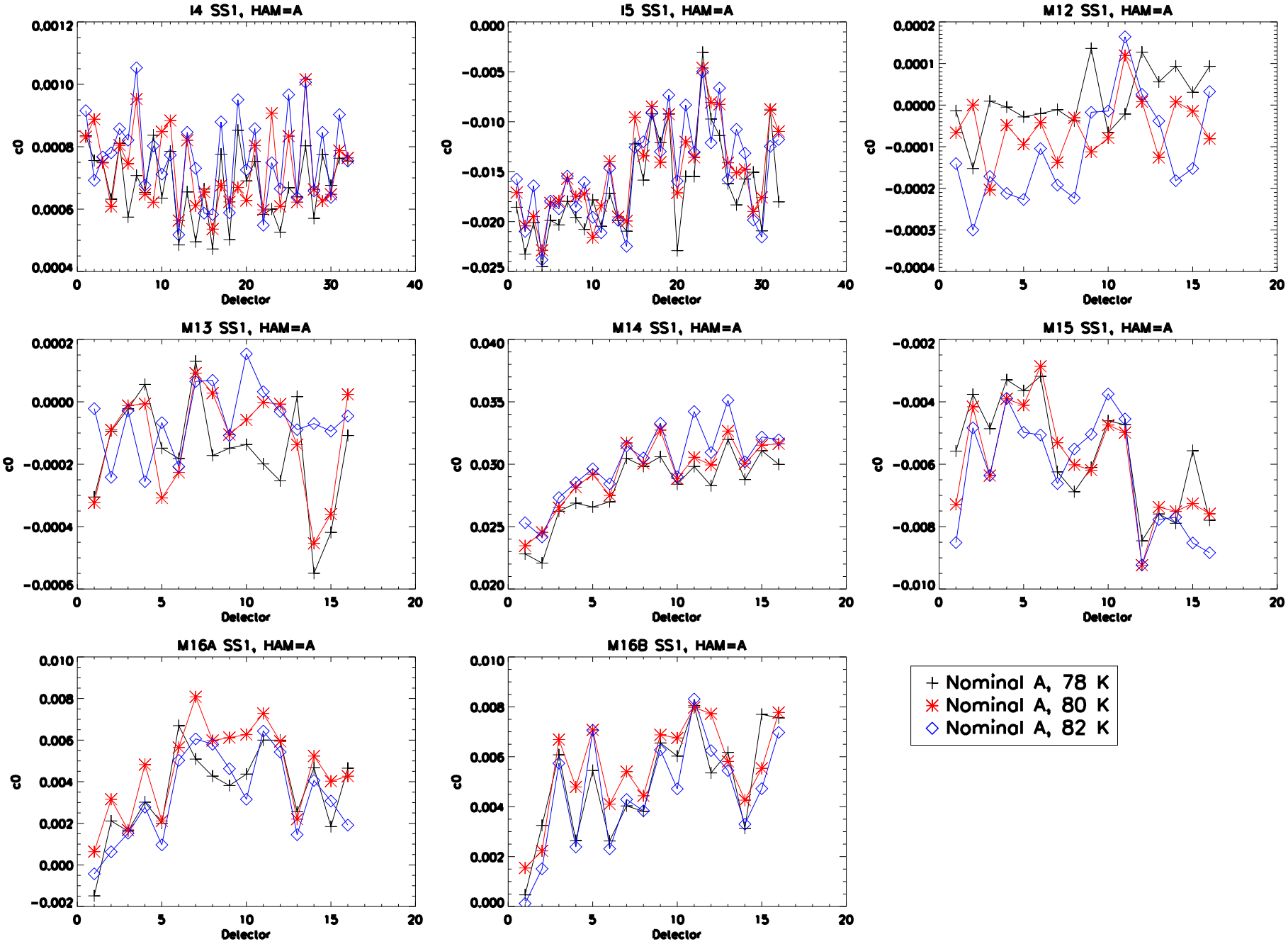
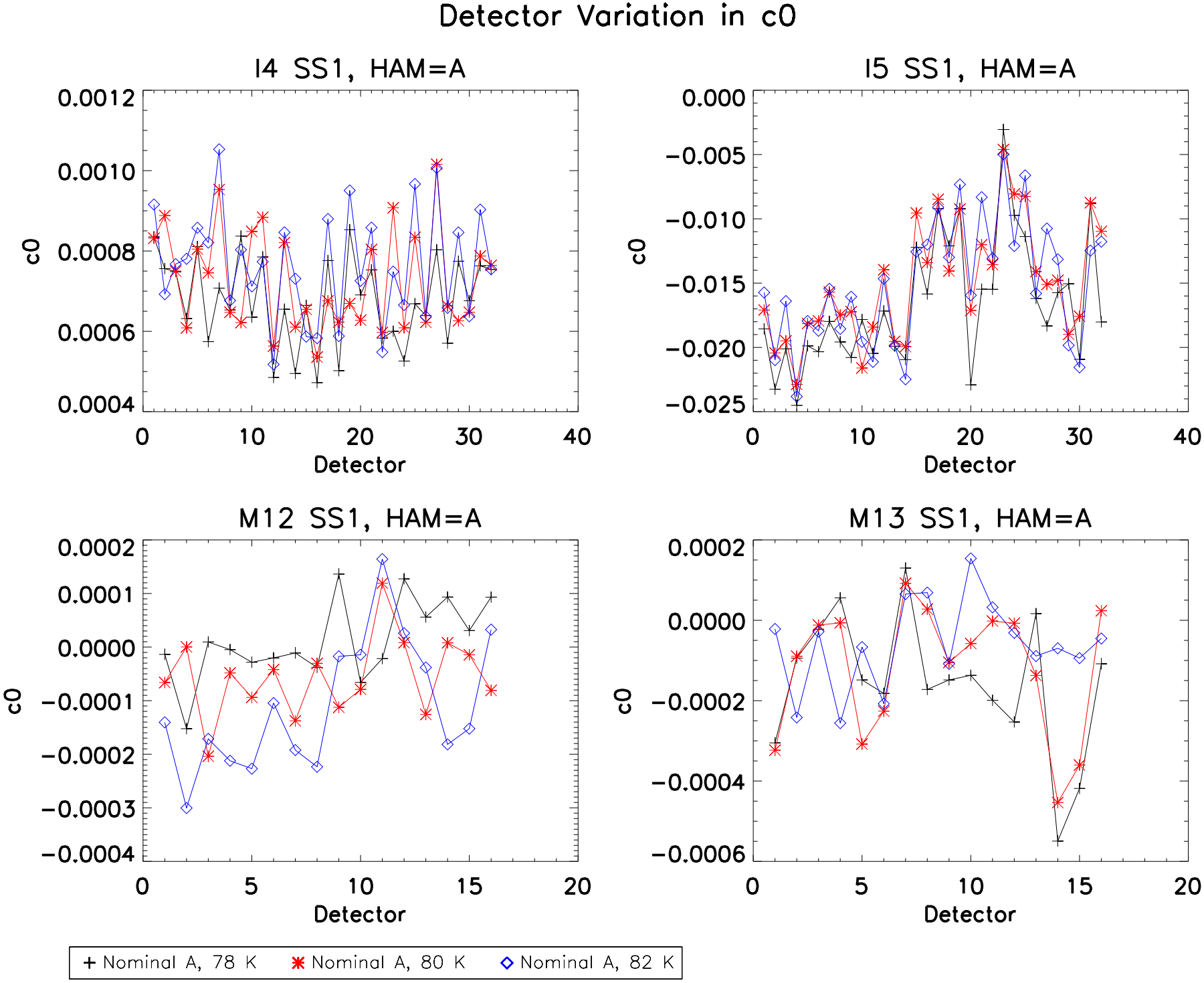
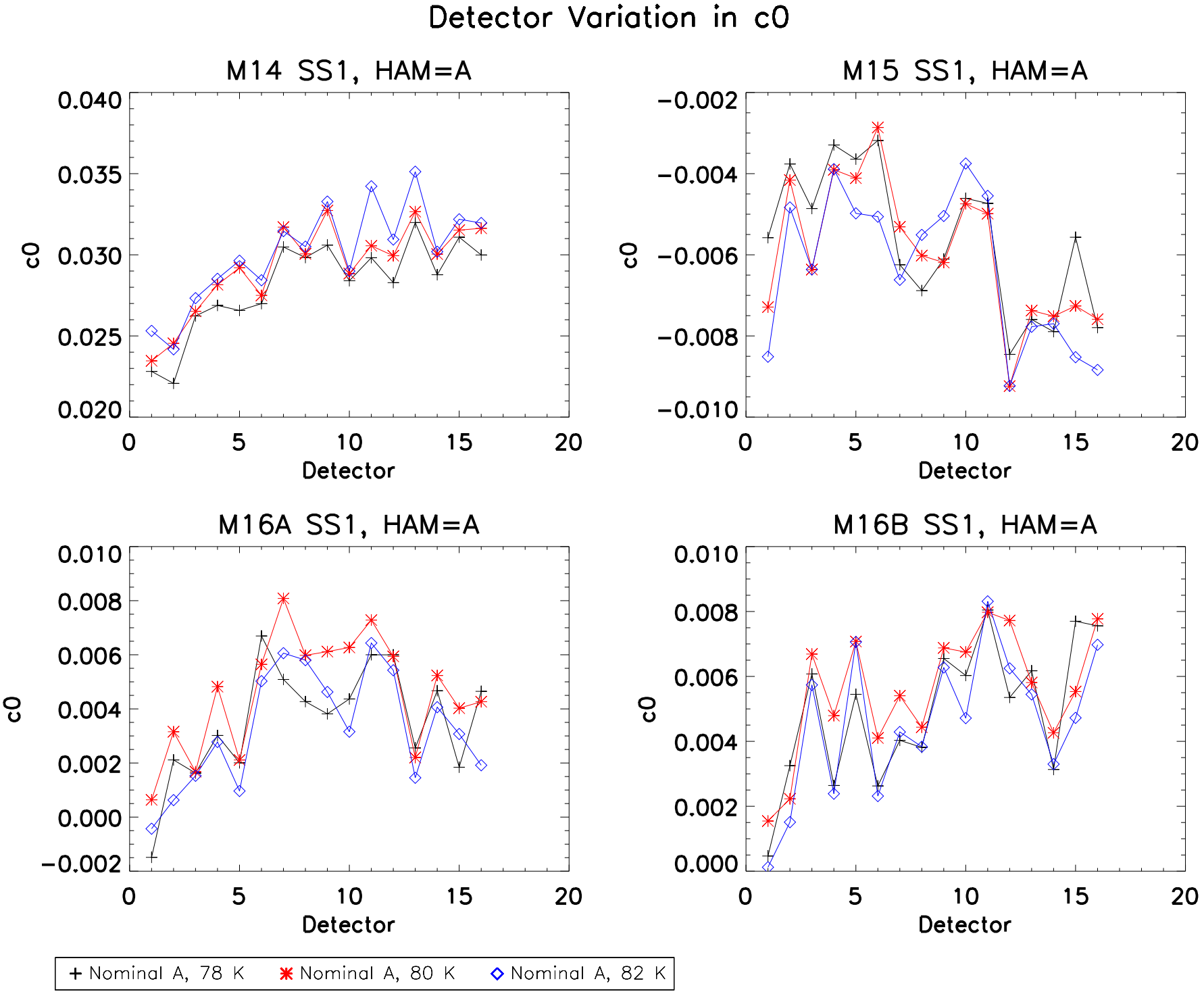
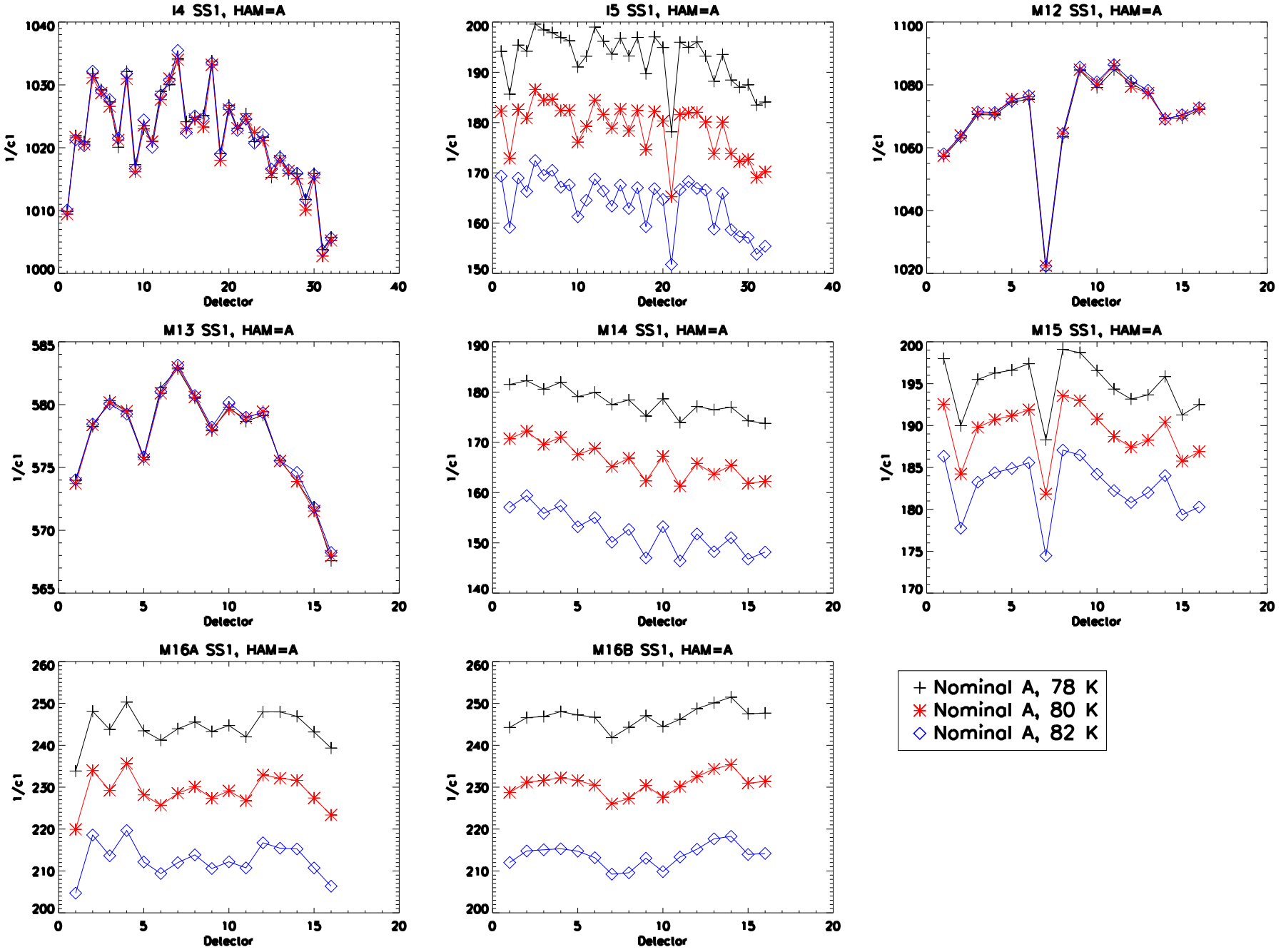
Detector Variation in c0



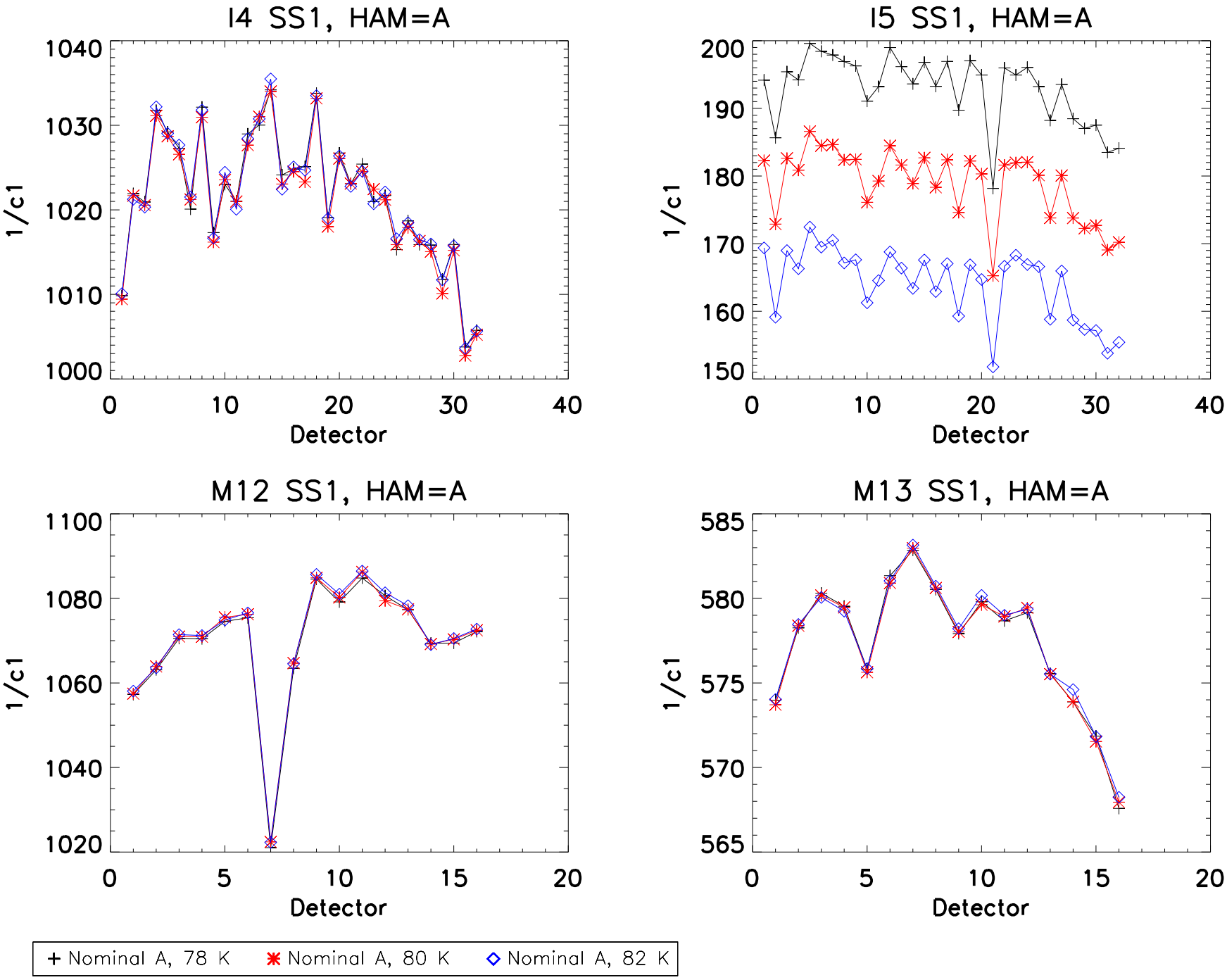

Detector Variation in c0
I4 SS1, HAM=A
I5 SS1, HAM=A
M12 SS1, HAM=A
M13 SS1, HAM=A
c0
Detector
0.0012
0.0010
0.0008
0.0006
0.0004
0.000
−0.005
−0.010
−0.015
−0.020
−0.025
0.0002
0.0001
0.0000
−0.0001
−0.0002
−0.0003
−0.0004
−0.0006
0
5
10
15
20
30
40
+ Nominal A, 78 K
✱ Nominal A, 80 K
◇ Nominal A, 82 K

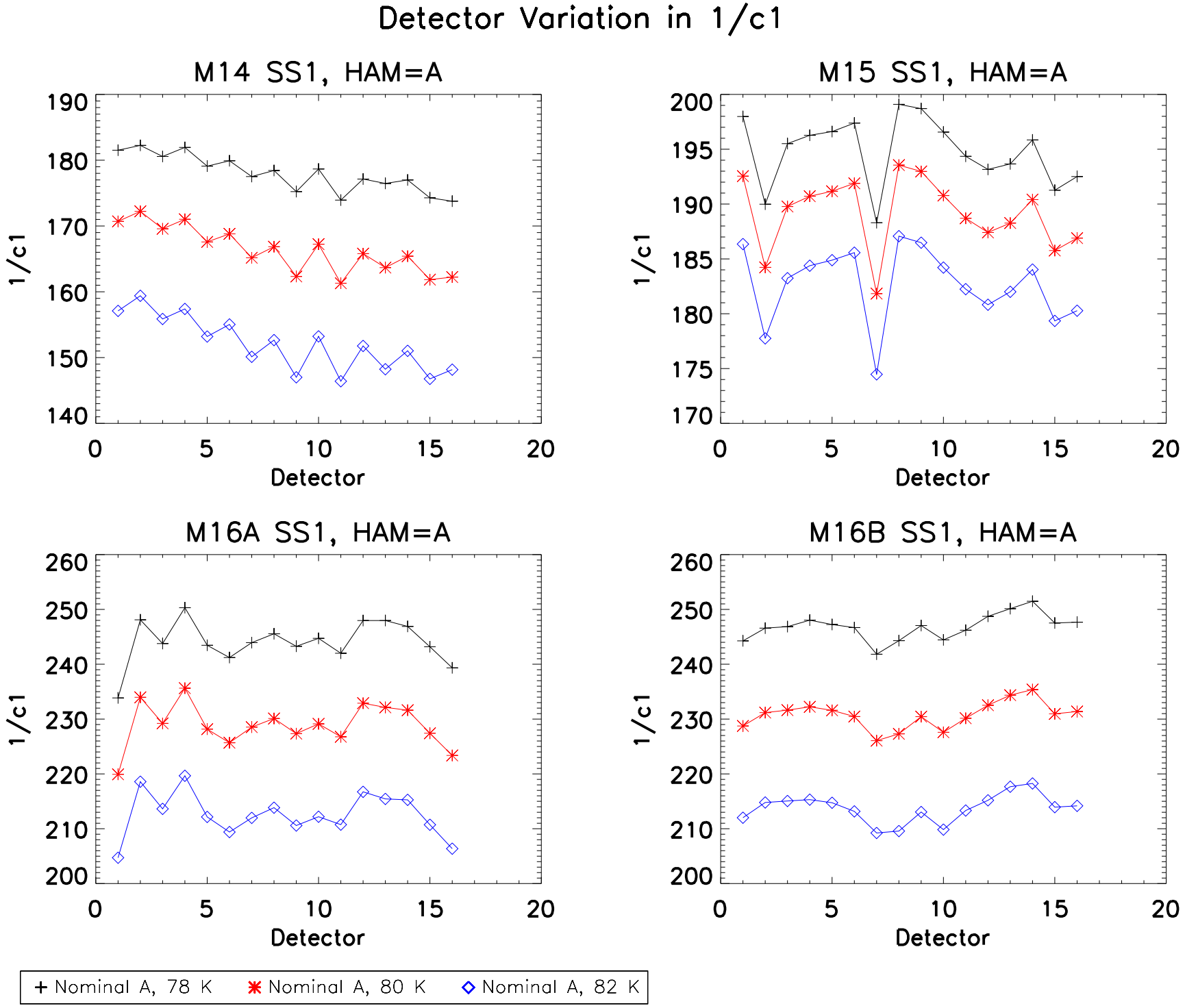

Detector Variation in c0
M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
c0
Detector
0.040
0.035
0.030
0.025
0.020
−0.002
−0.004
−0.006
−0.008
−0.010
0.010
0.008
0.006
0.004
0.002
0.000
−0.002
0
5
10
15
20
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K

Detector Variation in 1/c1

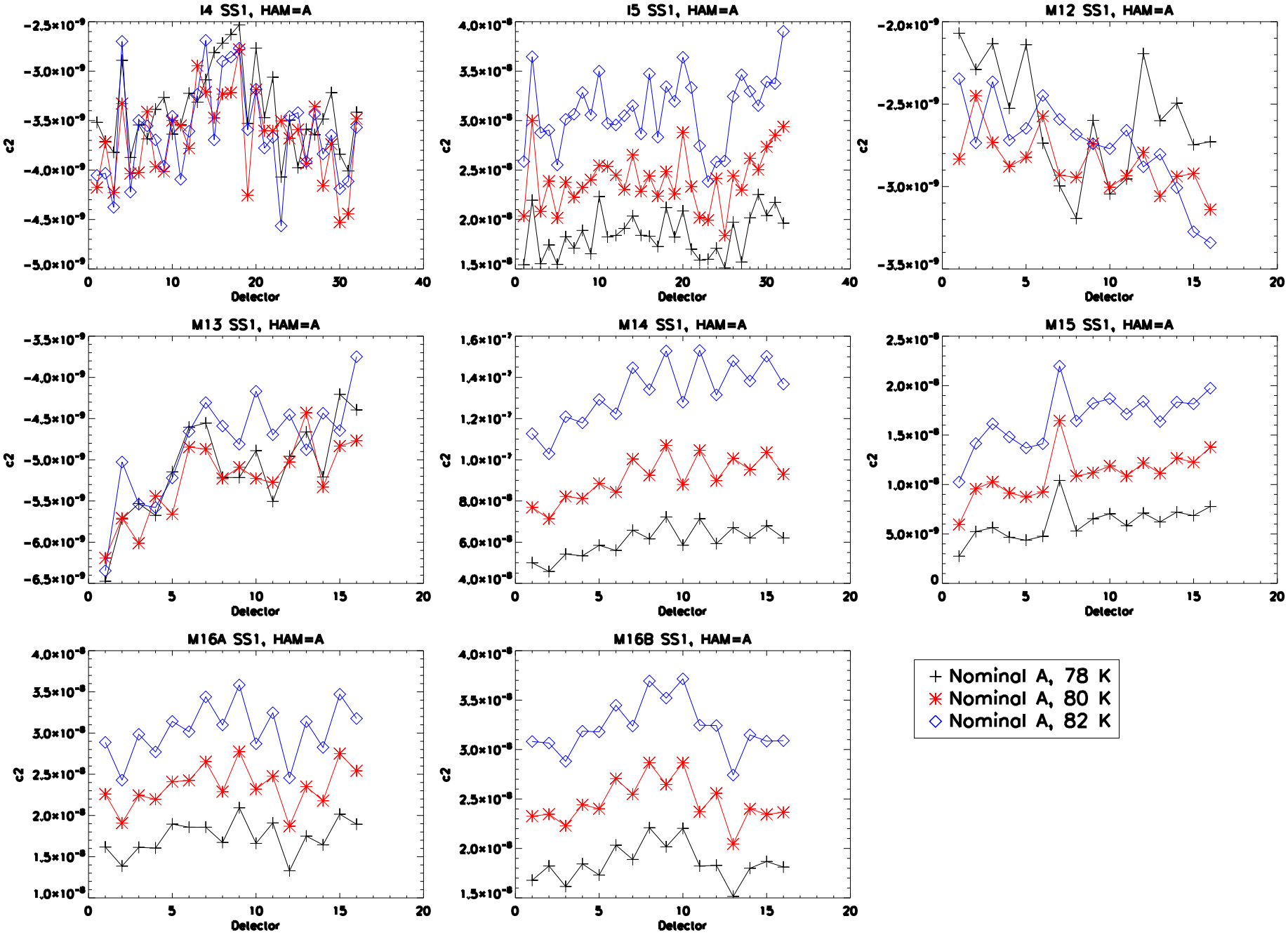


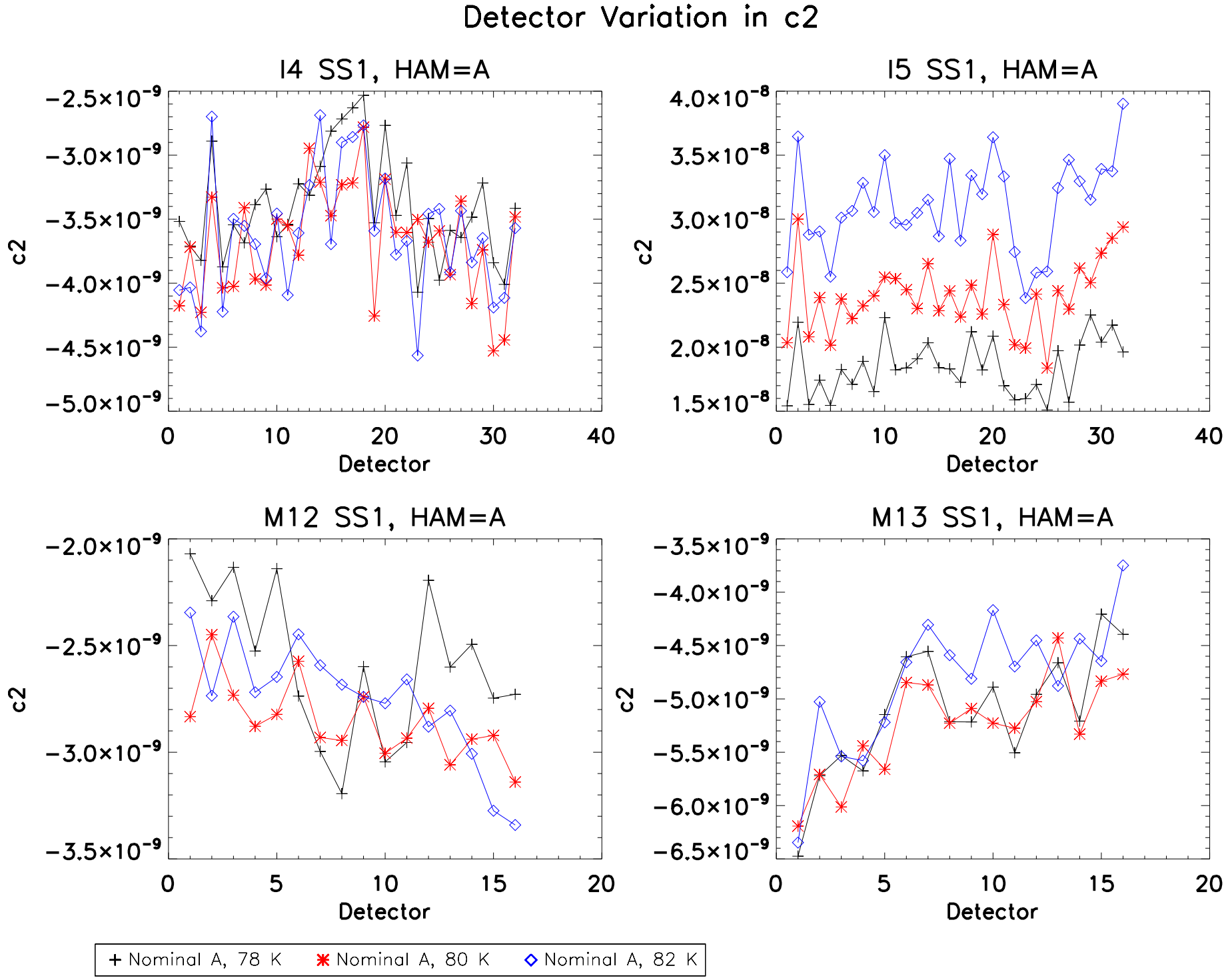
Detector Variation in 1/c1

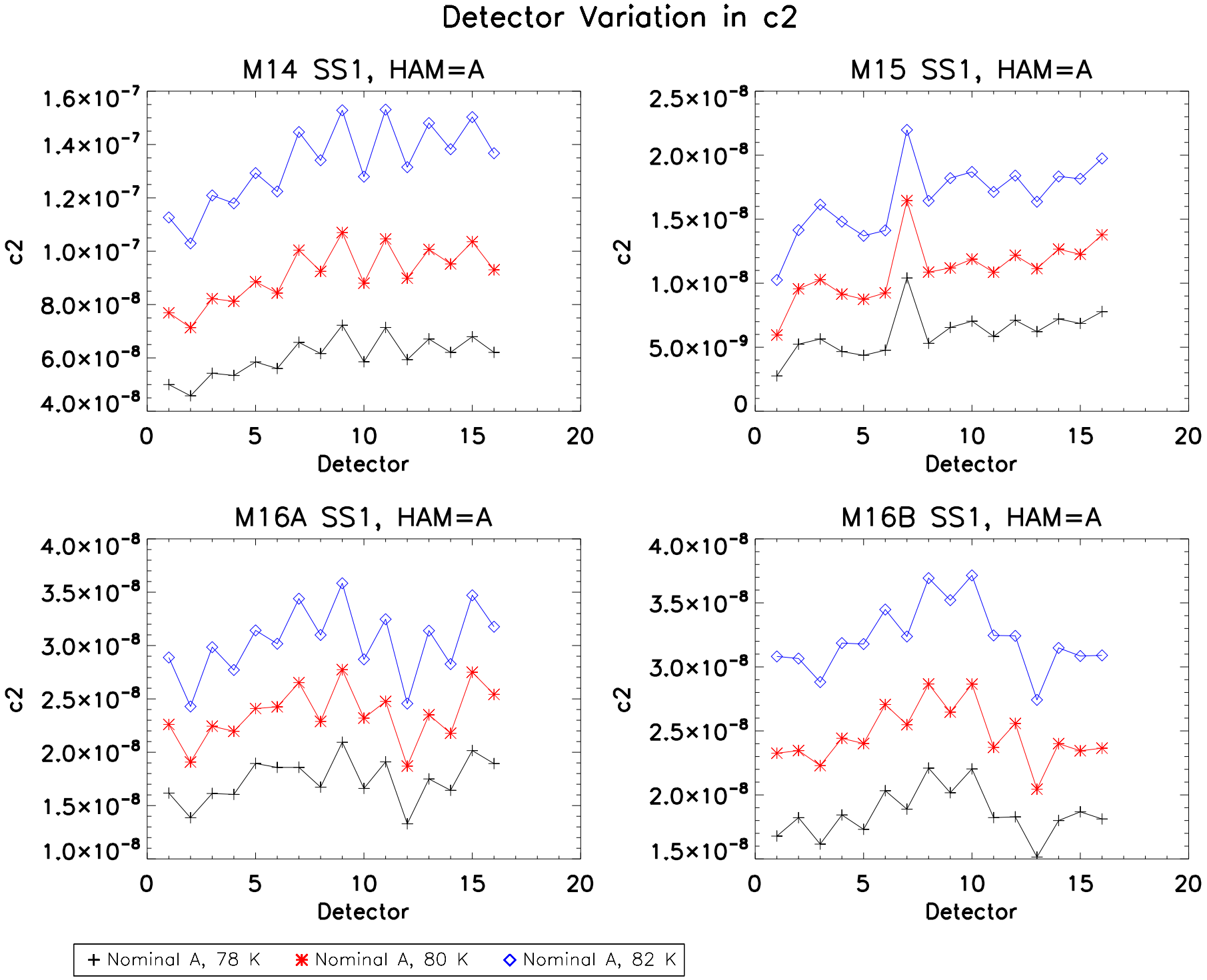


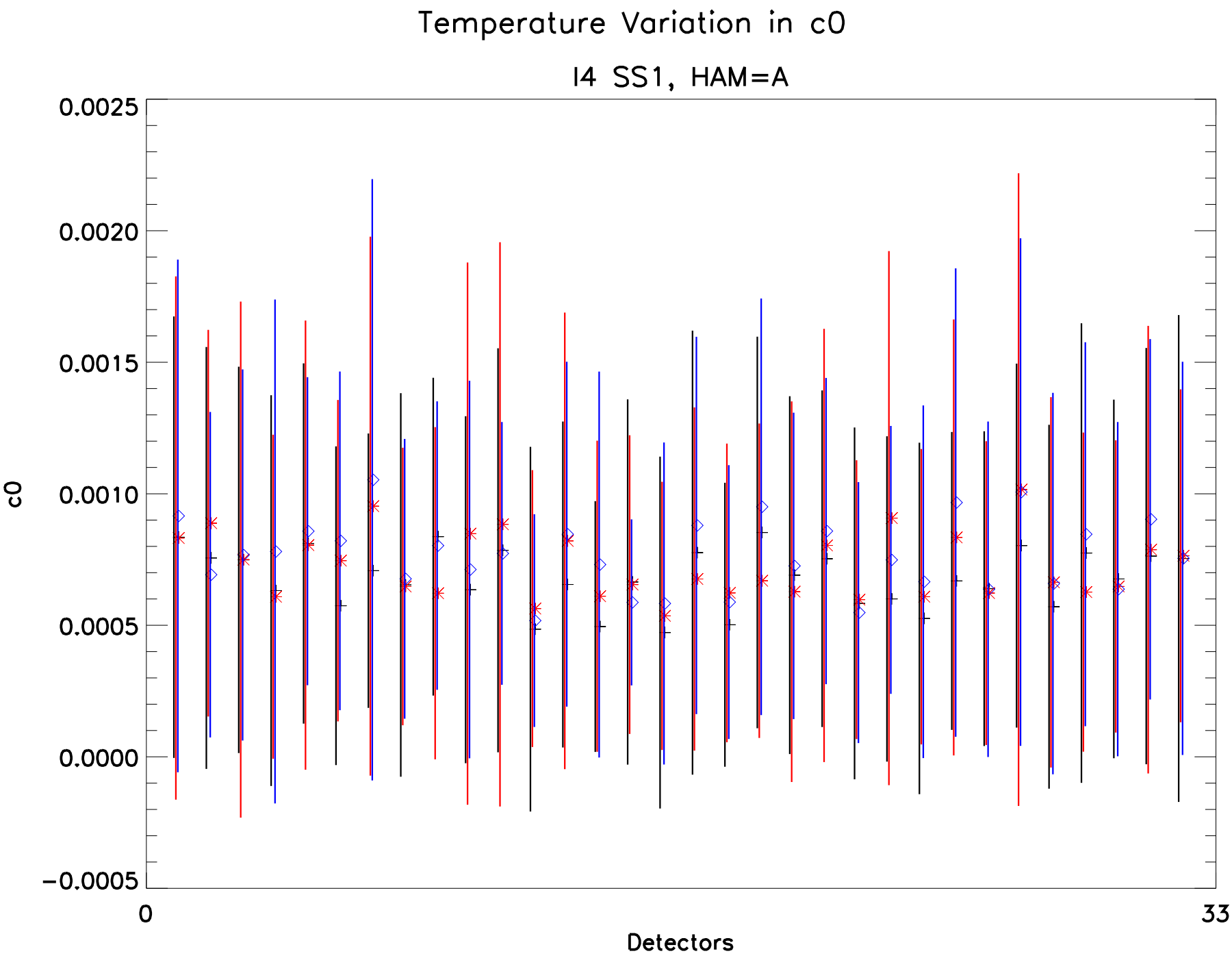

Detector Variation in 1/c1
M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
1/c1
Detector
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K

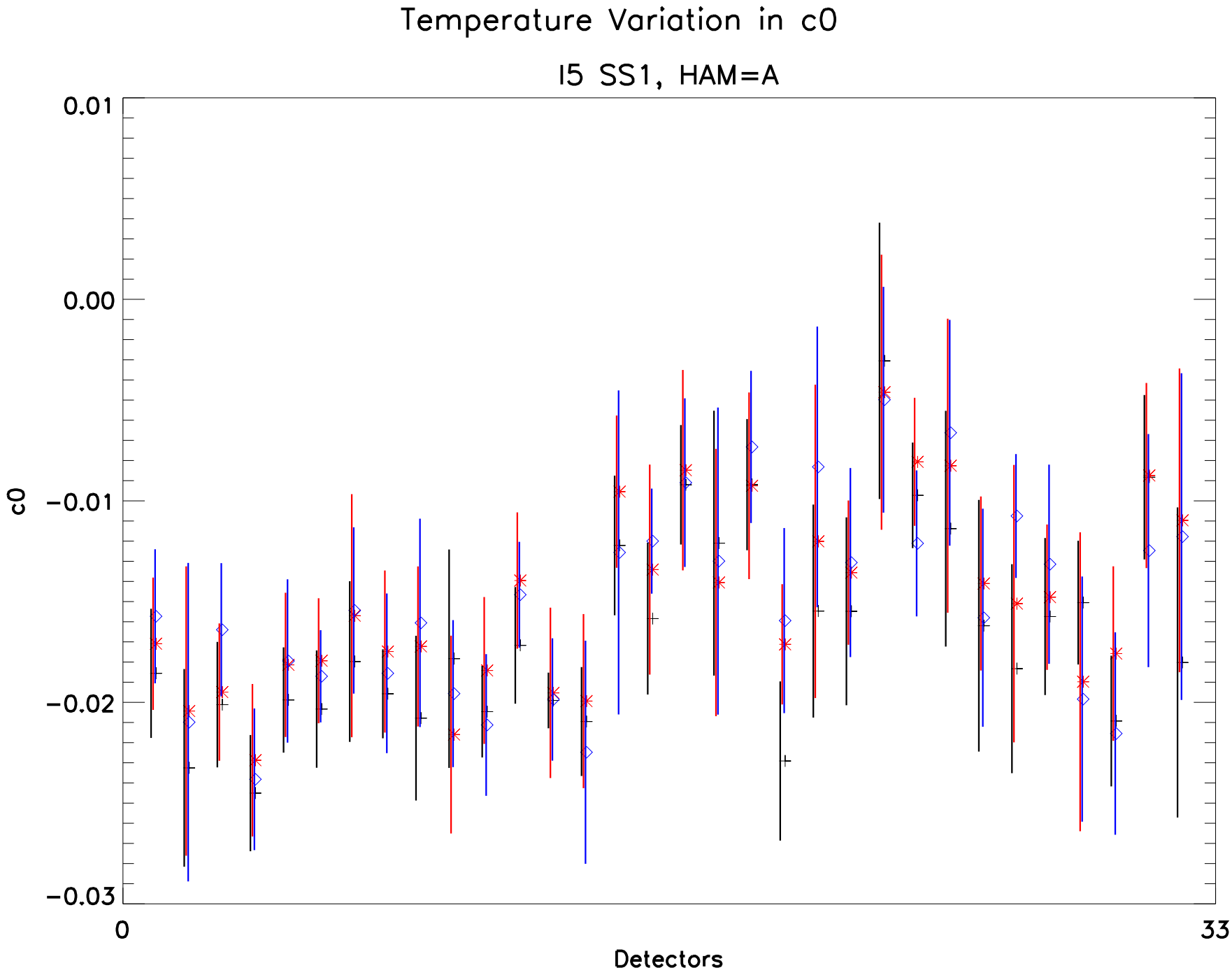
Detector Variation in c2

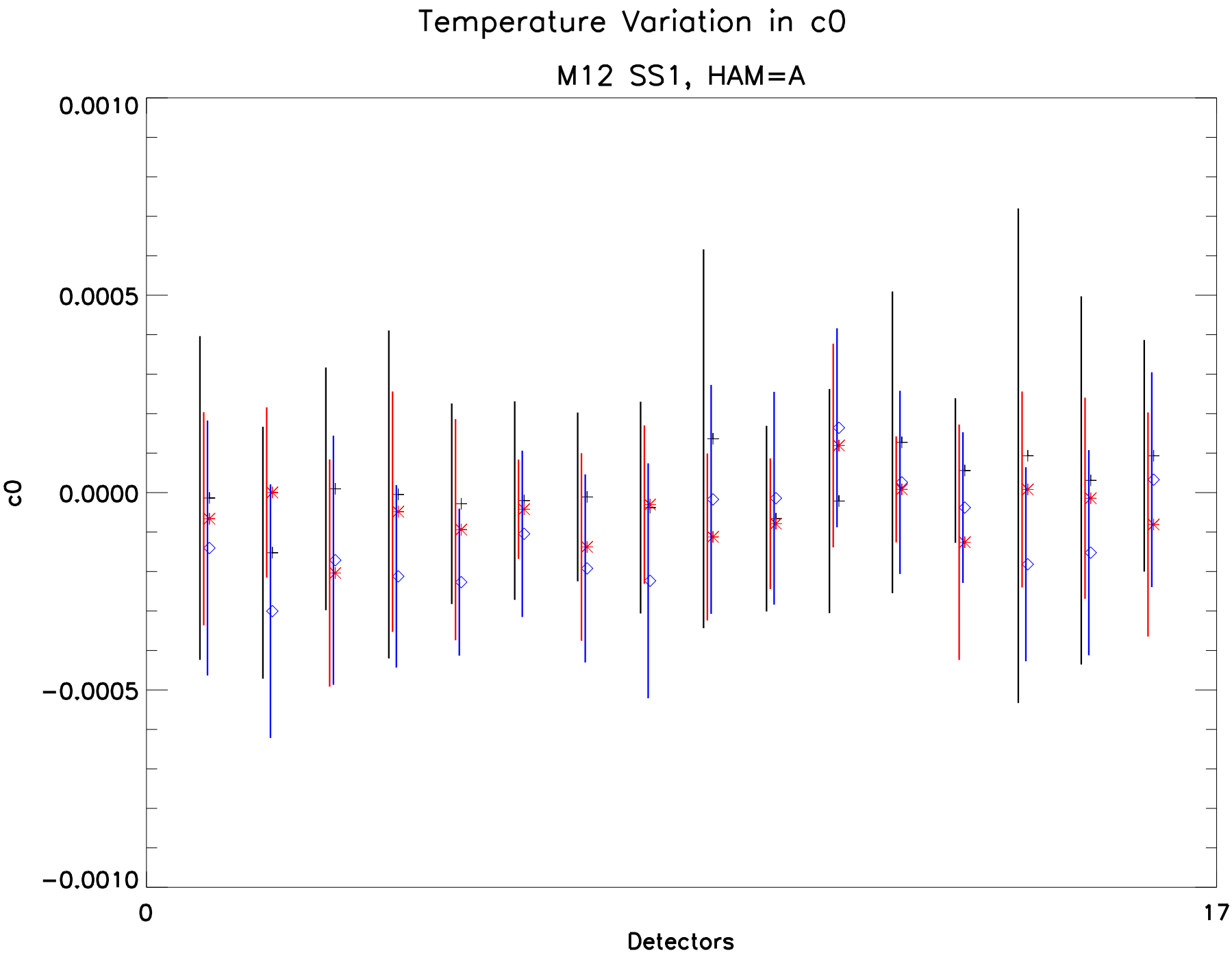


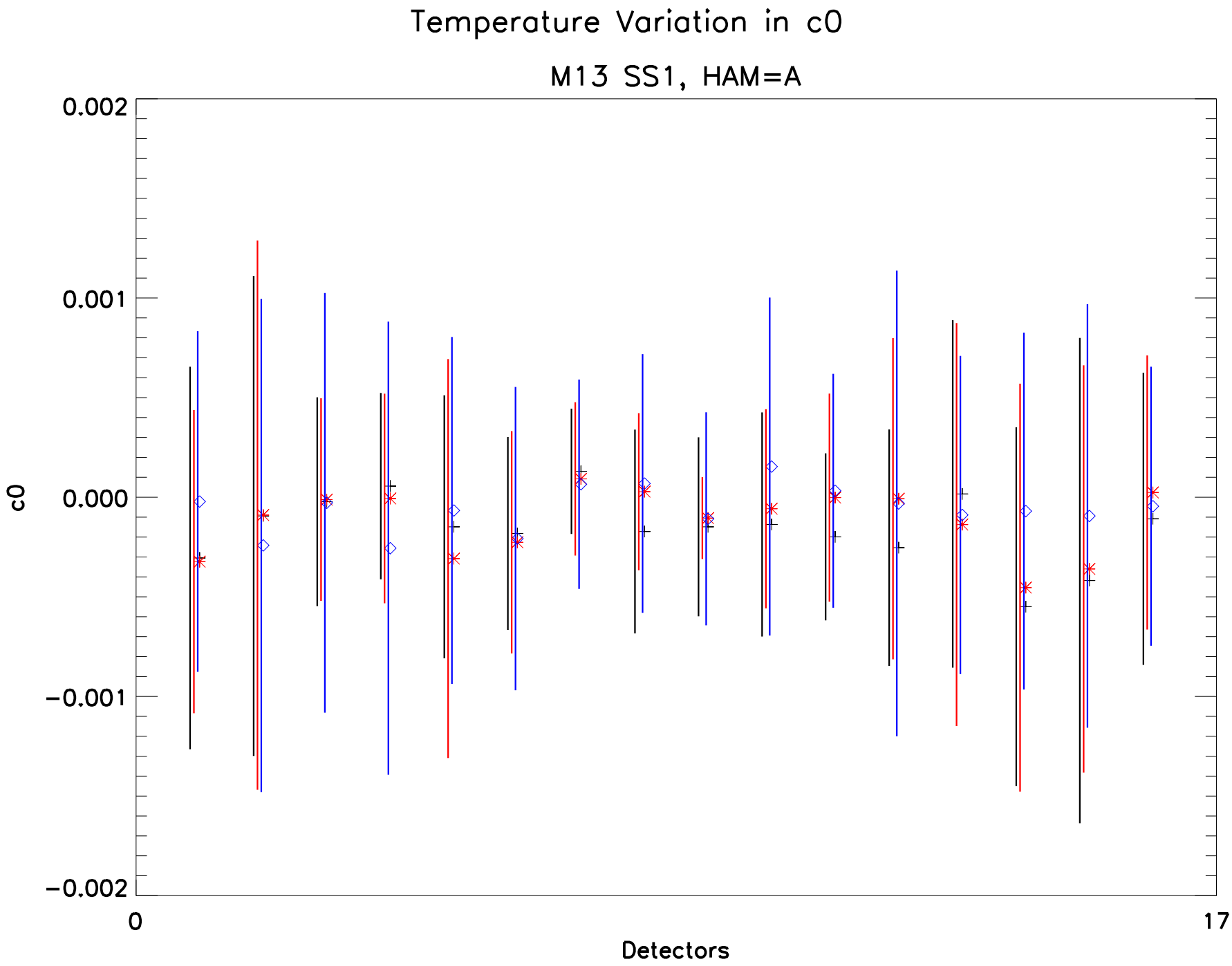

Detector Variation in c2
I4 SS1, HAM=A
I5 SS1, HAM=A
M12 SS1, HAM=A
M13 SS1, HAM=A
c2
Detector
−2.5×10⁻⁹
−3.0×10⁻⁹
−3.5×10⁻⁹
−4.0×10⁻⁹
−4.5×10⁻⁹
−5.0×10⁻⁹
4.0×10⁻⁸
3.5×10⁻⁸
3.0×10⁻⁸
2.5×10⁻⁸
2.0×10⁻⁸
1.5×10⁻⁸
−2.0×10⁻⁹
−2.5×10⁻⁹
−3.0×10⁻⁹
−3.5×10⁻⁹
−3.5×10⁻⁹
−4.0×10⁻⁹
−4.5×10⁻⁹
−5.0×10⁻⁹
−5.5×10⁻⁹
−6.0×10⁻⁹
−6.5×10⁻⁹
0
5
10
15
20
30
40
Nominal A, 78 K
Nominal A, 80 K
Nominal A, 82 K

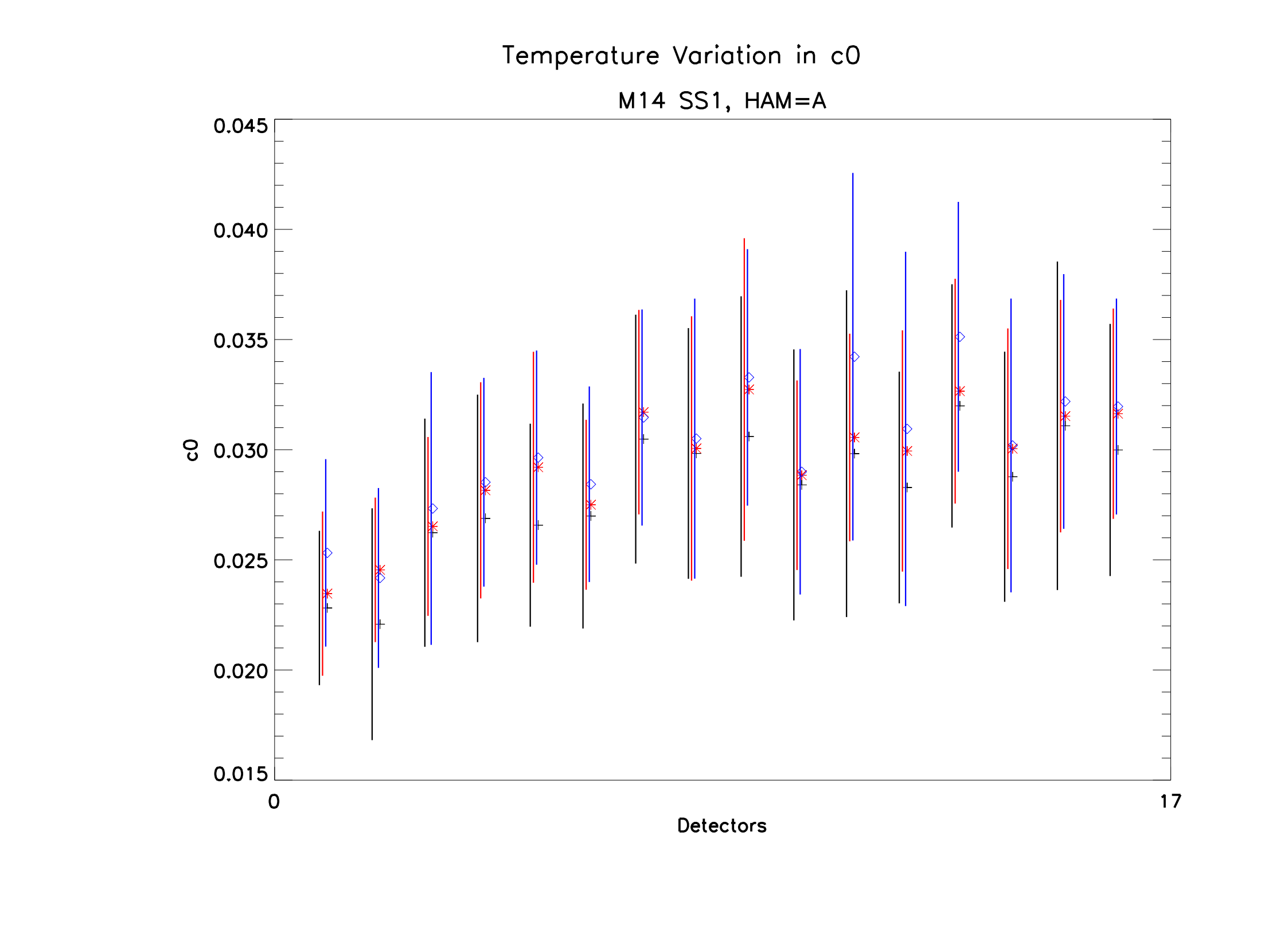

Detector Variation in c2
M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
c2
Detector
1.6×10⁻⁷
1.4×10⁻⁷
1.2×10⁻⁷
1.0×10⁻⁷
8.0×10⁻⁸
6.0×10⁻⁸
4.0×10⁻⁸
2.5×10⁻⁸
2.0×10⁻⁸
1.5×10⁻⁸
1.0×10⁻⁸
5.0×10⁻⁹
0
3.5×10⁻⁸
3.0×10⁻⁸
0
5
10
15
20
Nominal A, 78 K
Nominal A, 80 K
Nominal A, 82 K

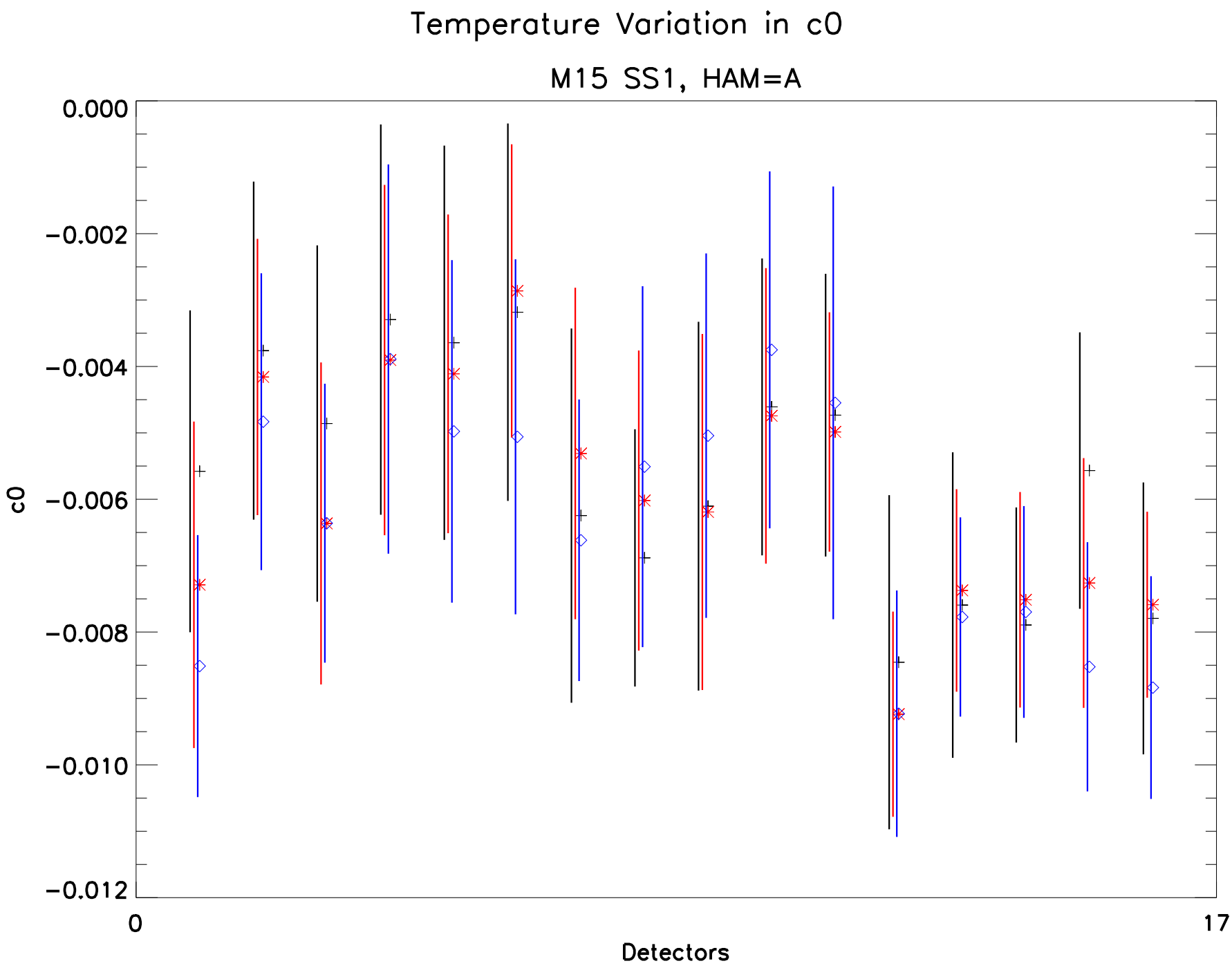

Temperature Variation in c0
I4 SS1, HAM=A
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
−0.0005
c0
0
33
Detectors

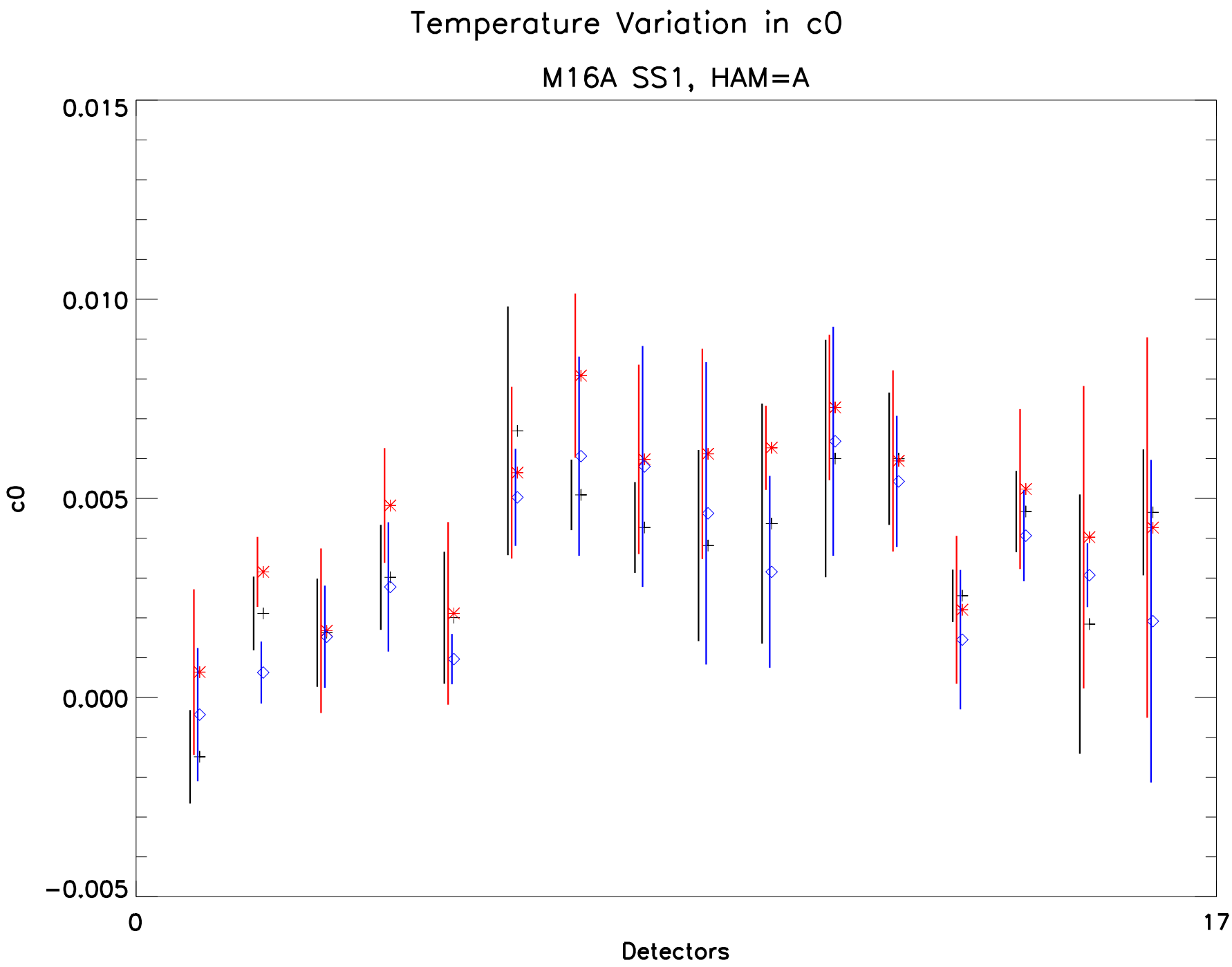

Temperature Variation in c0
I5 SS1, HAM=A
0.01
0.00
−0.01
−0.02
−0.03
c0
0
33
Detectors

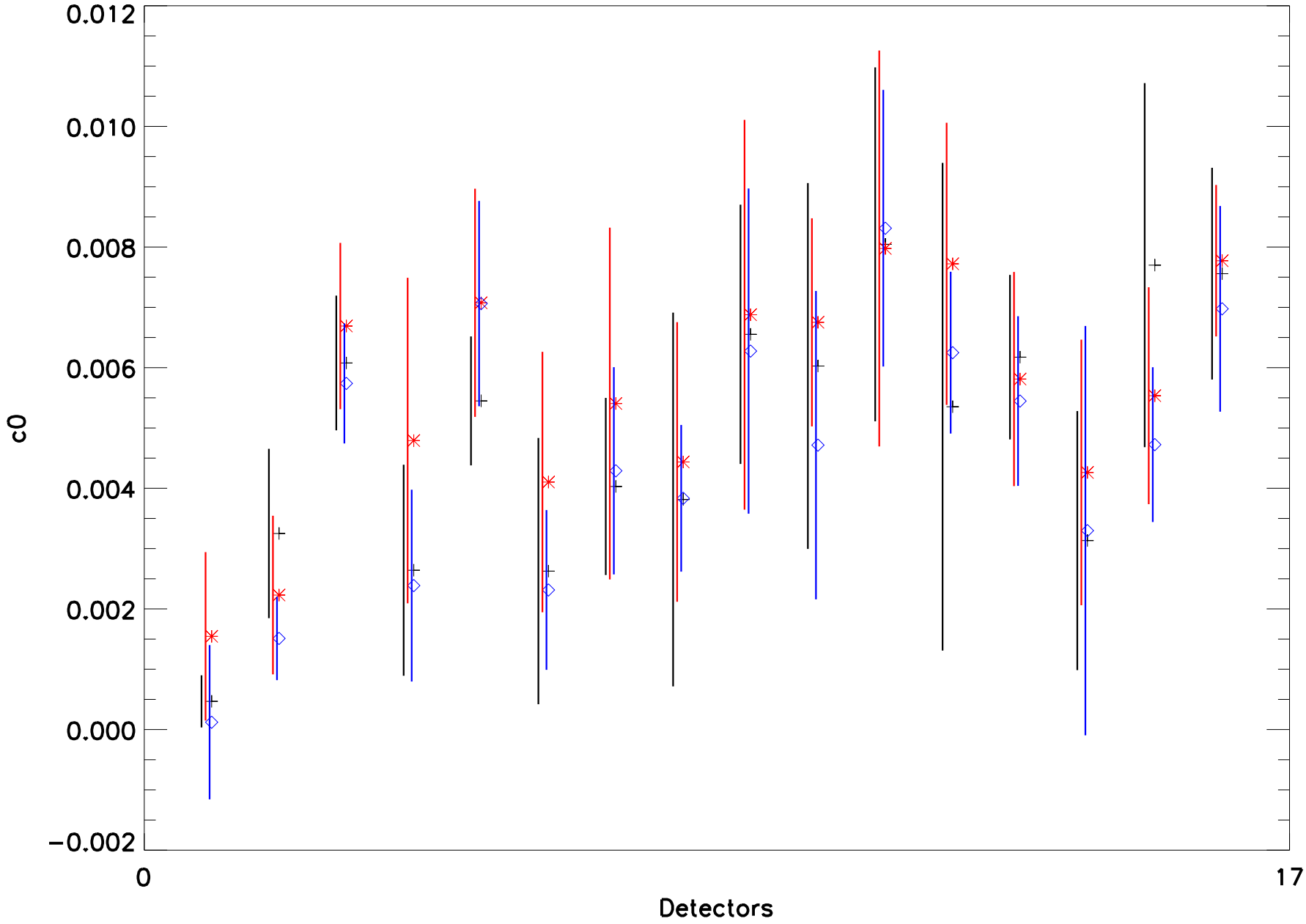

Temperature Variation in c0
M12 SS1, HAM=A
0.0010
0.0005
0.0000
−0.0005
−0.0010
c0
0
17
Detectors


Temperature Variation in c0
M13 SS1, HAM=A
0.002
0.001
0.000
−0.001
−0.002
c0
0
17
Detectors

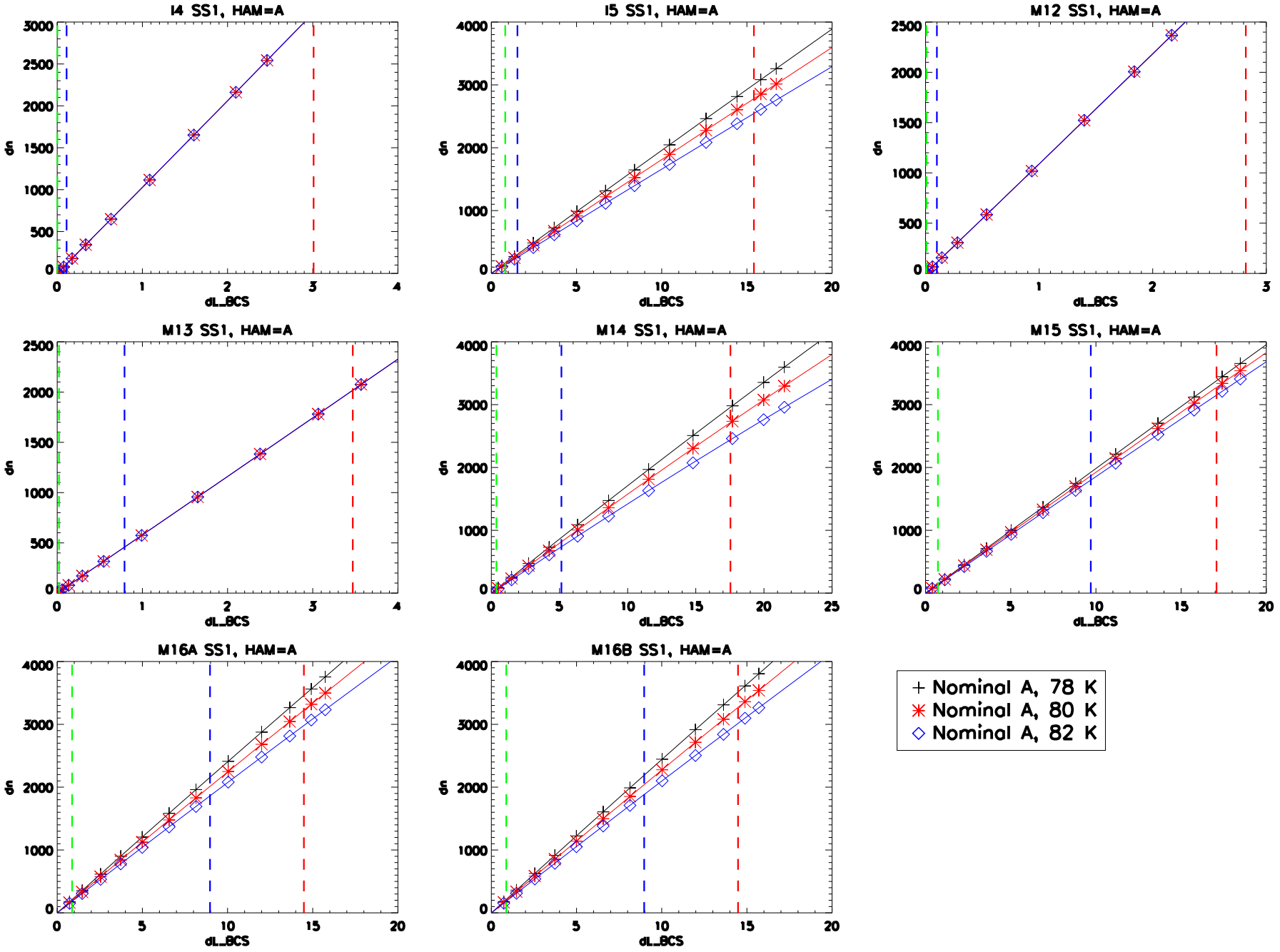

Temperature Variation in c0
M14 SS1, HAM=A
0.045
0.040
0.035
0.030
0.025
0.020
0.015
c0
0
17
Detectors

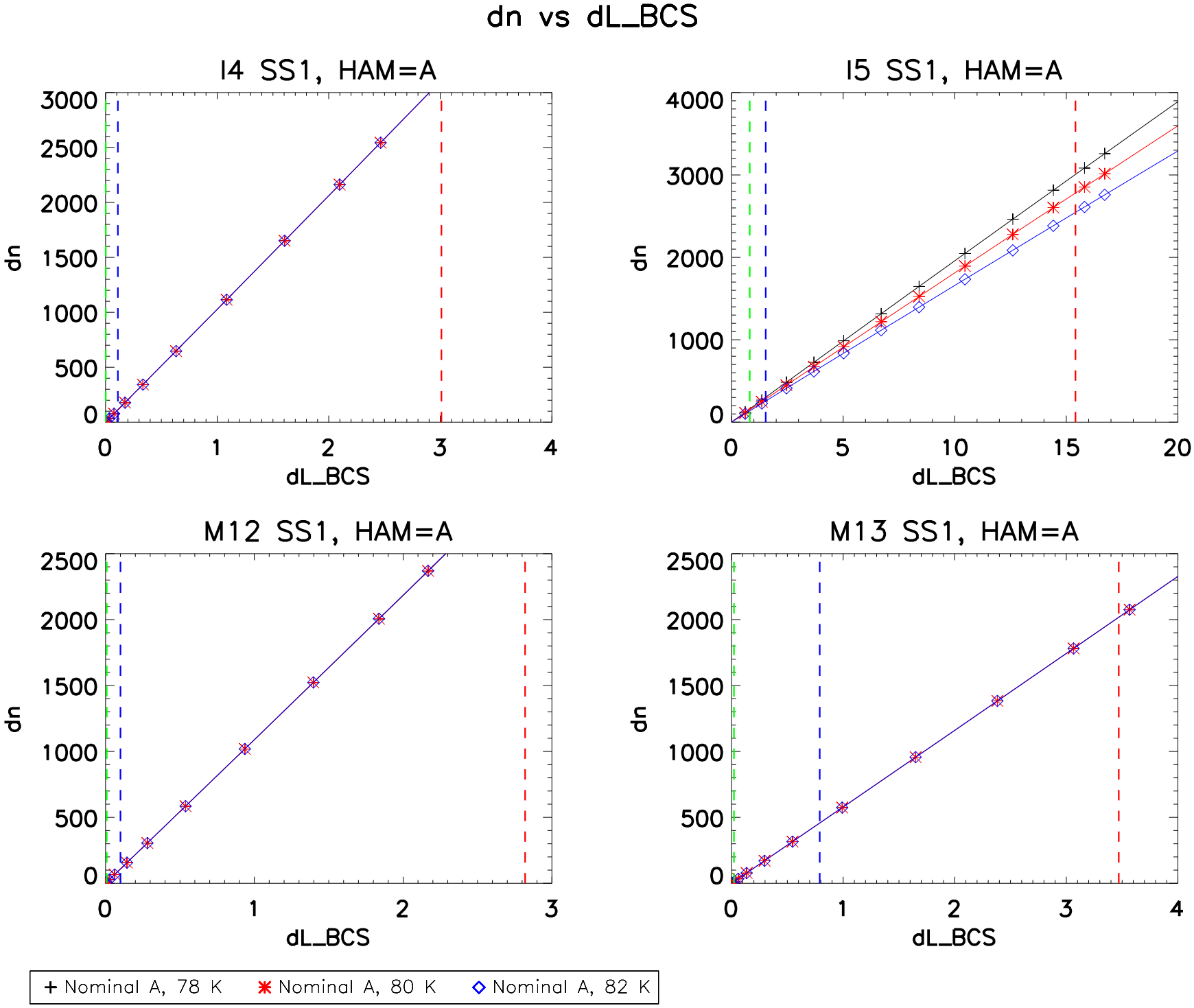

Temperature Variation in c0
M15 SS1, HAM=A
0.000
−0.002
−0.004
−0.006
−0.008
−0.010
−0.012
c0
0
17
Detectors

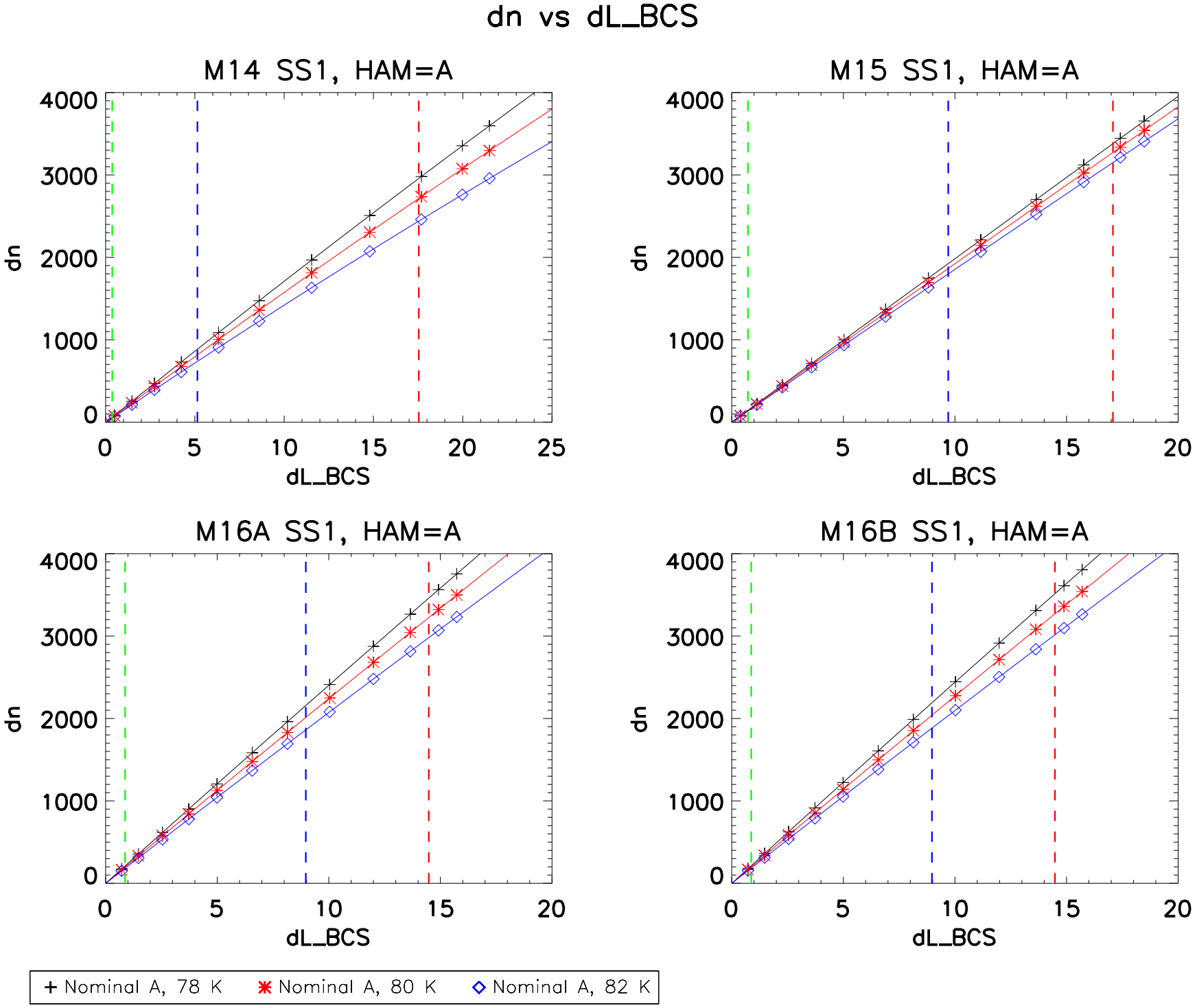

Temperature Variation in c0
M16A SS1, HAM=A
0.015
0.010
0.005
0.000
−0.005
c0
0
17
Detectors


Temperature Variation in c0
M16B SS1, HAM=A
0.012
0.010
0.008
0.006
0.004
0.002
0.000
−0.002
c0
0
17
Detectors

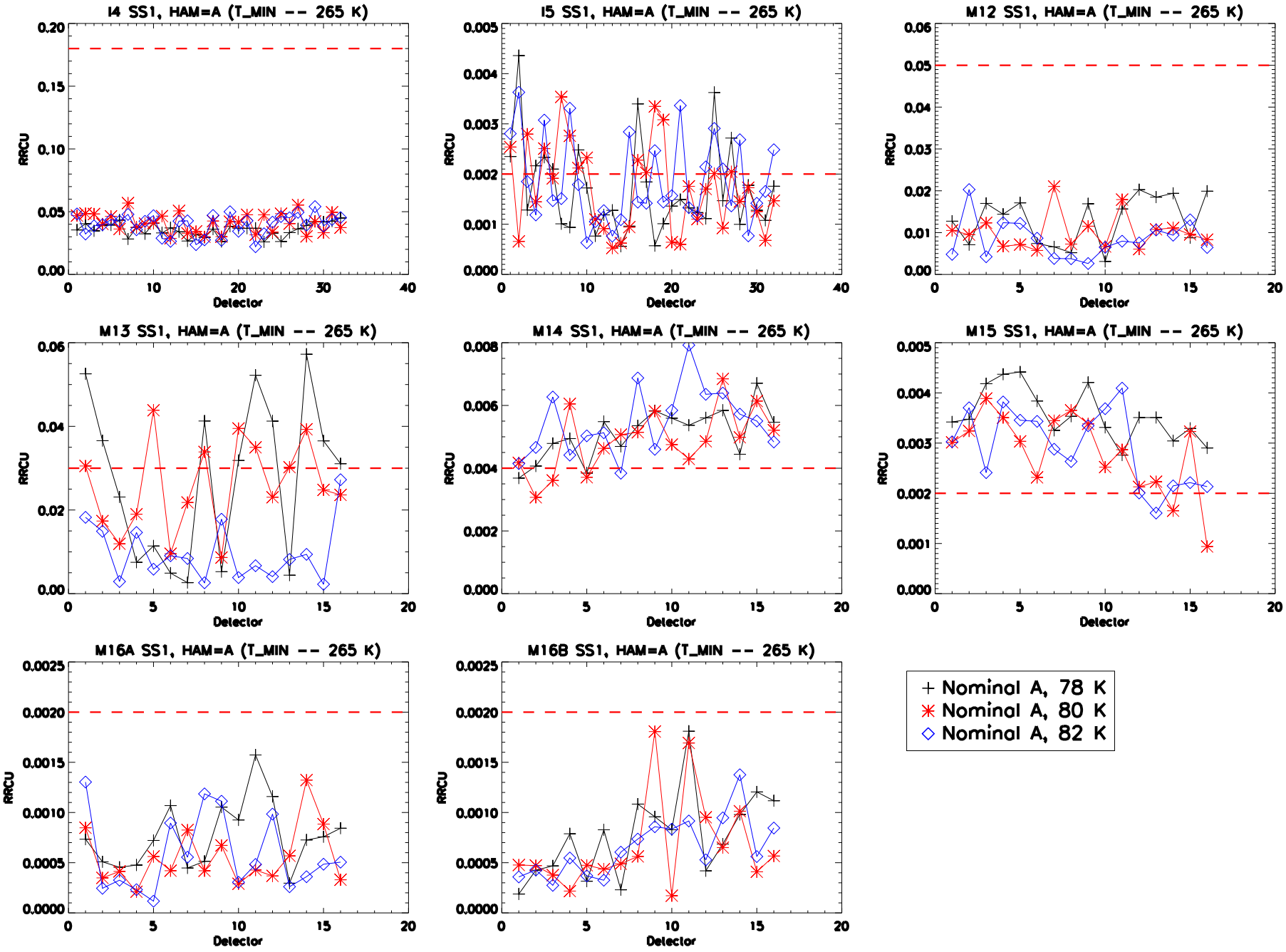
dn vs dL_BCS


I4 SS1, HAM=A
I5 SS1, HAM=A
M12 SS1, HAM=A
M13 SS1, HAM=A
M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
dn
dL_BCS
Nominal A, 78 K
Nominal A, 80 K
Nominal A, 82 K

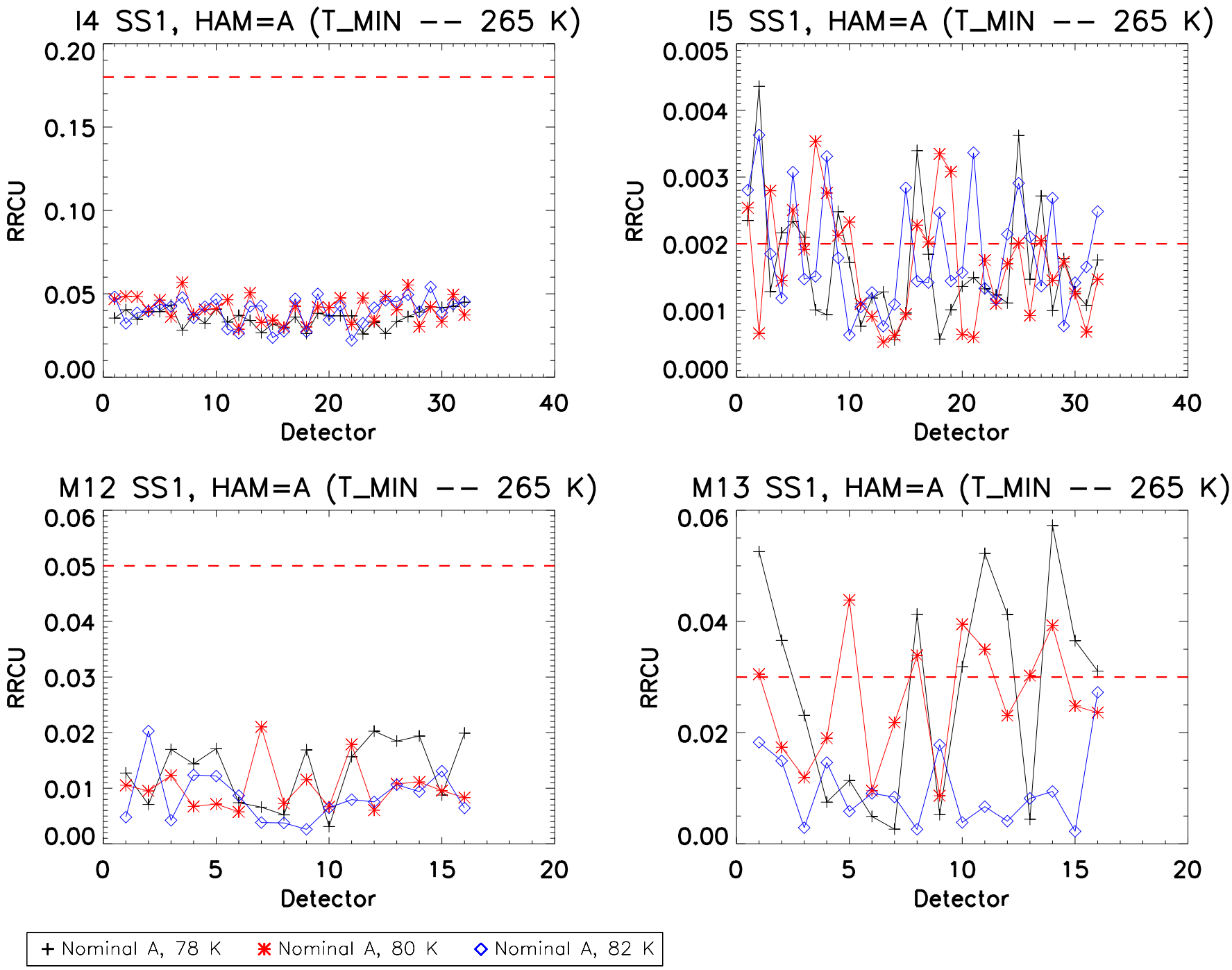

dn vs dL_BCS
I4 SS1, HAM=A
I5 SS1, HAM=A
M12 SS1, HAM=A
M13 SS1, HAM=A
dn
dL_BCS
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K


dn vs dL_BCS
M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
dn
dL_BCS
0
1000
2000
3000
4000
0
5
10
15
20
25
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K

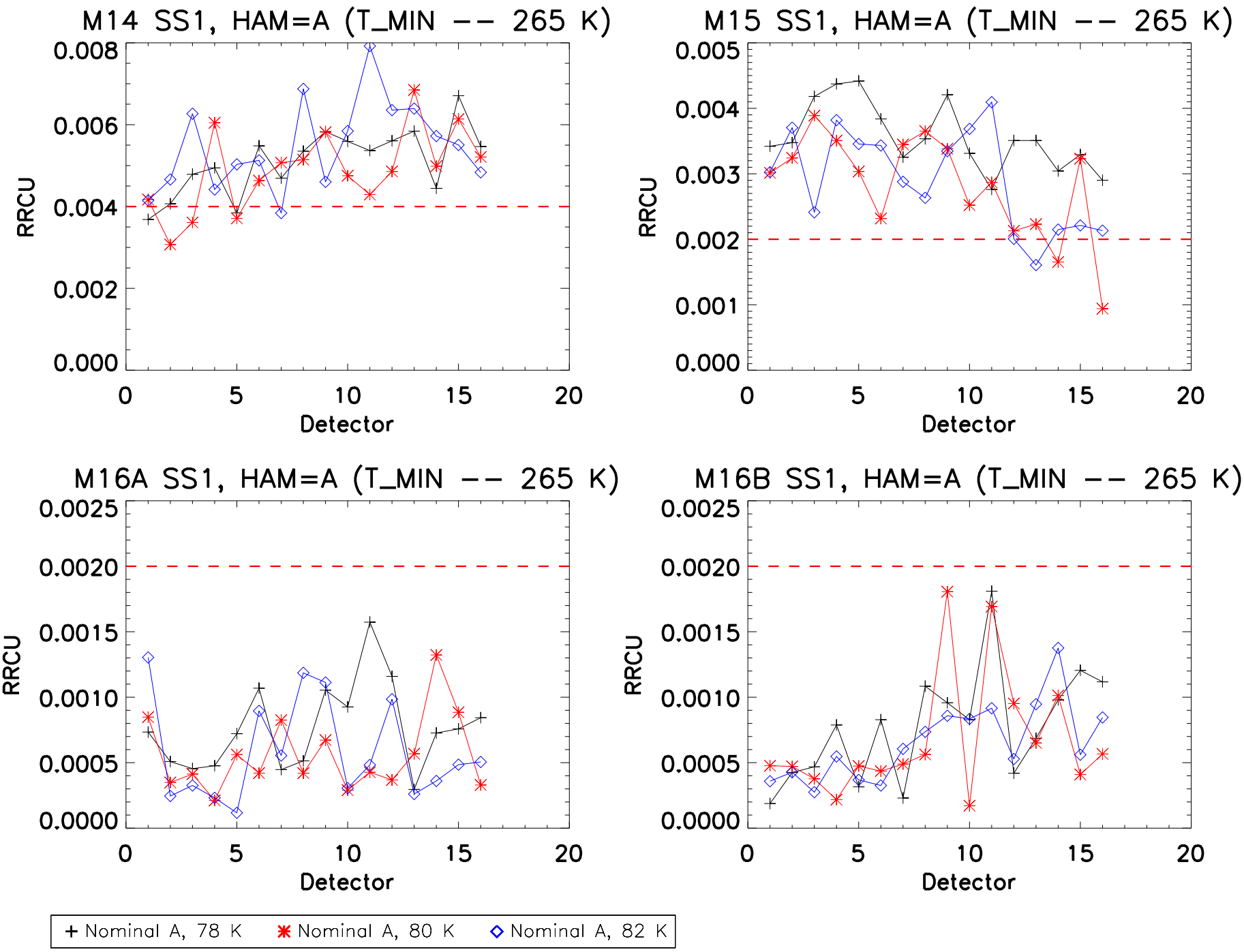
Detector Variation in RRCU



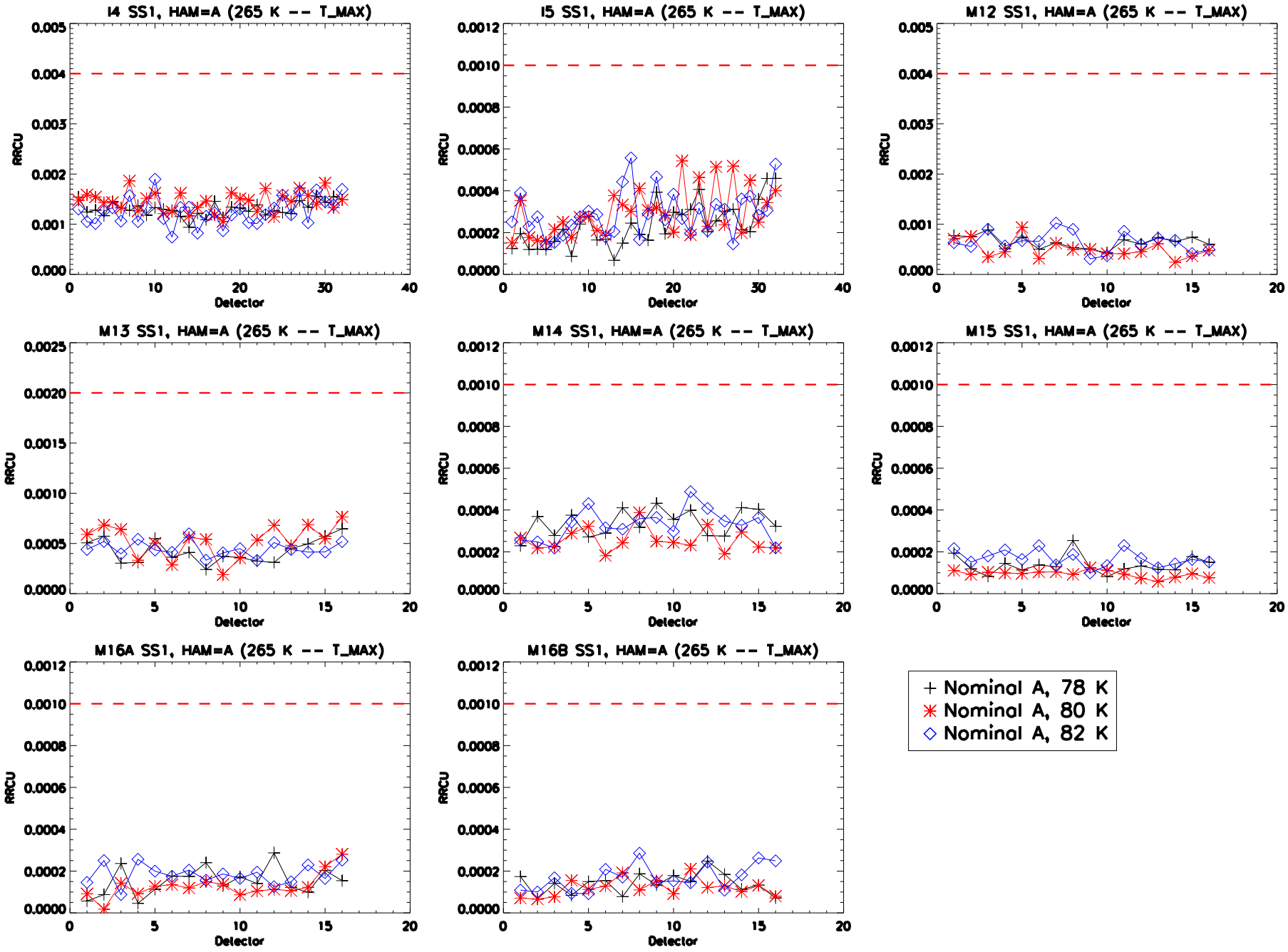
Detector Variation in RRCU



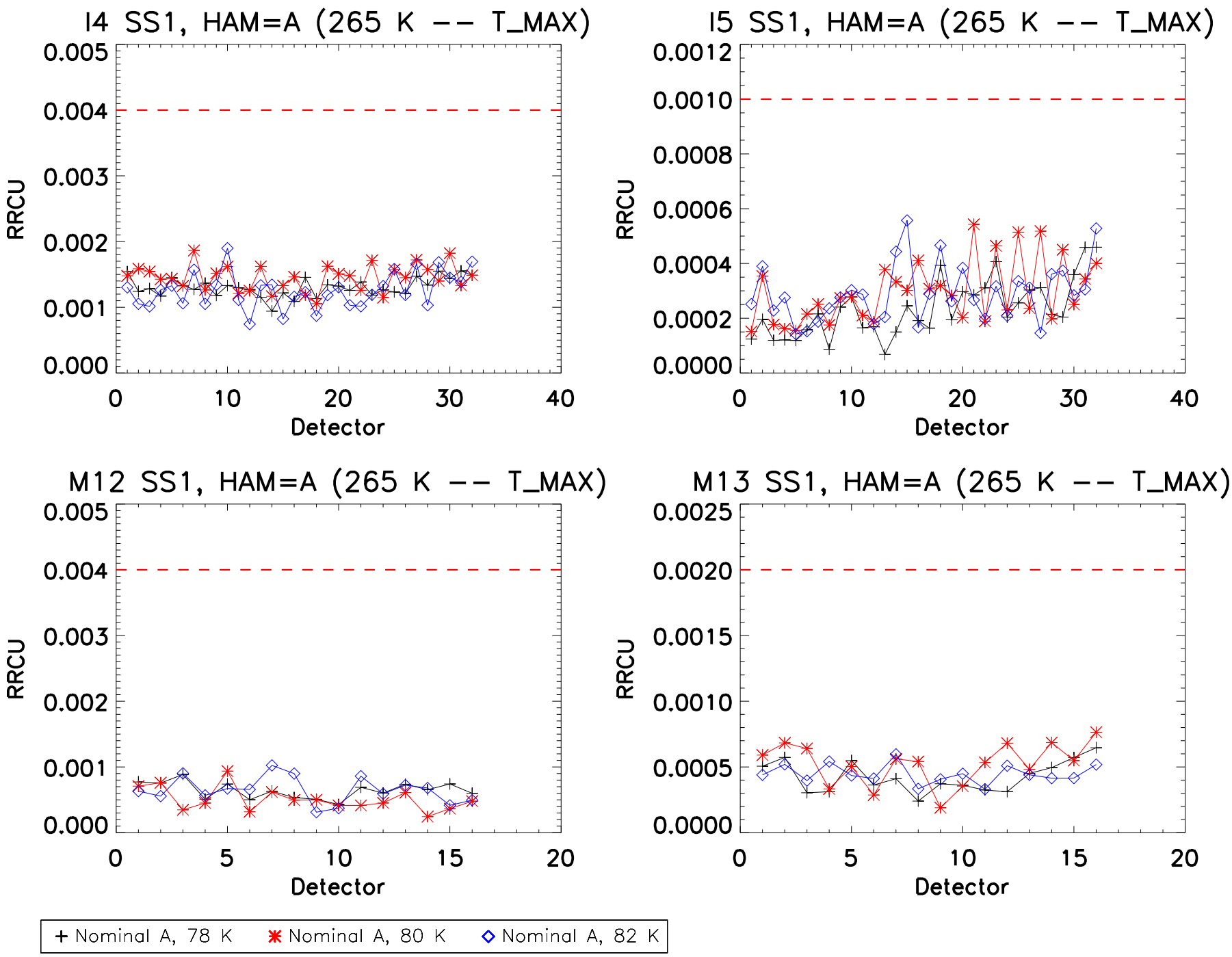
Detector Variation in RRCU



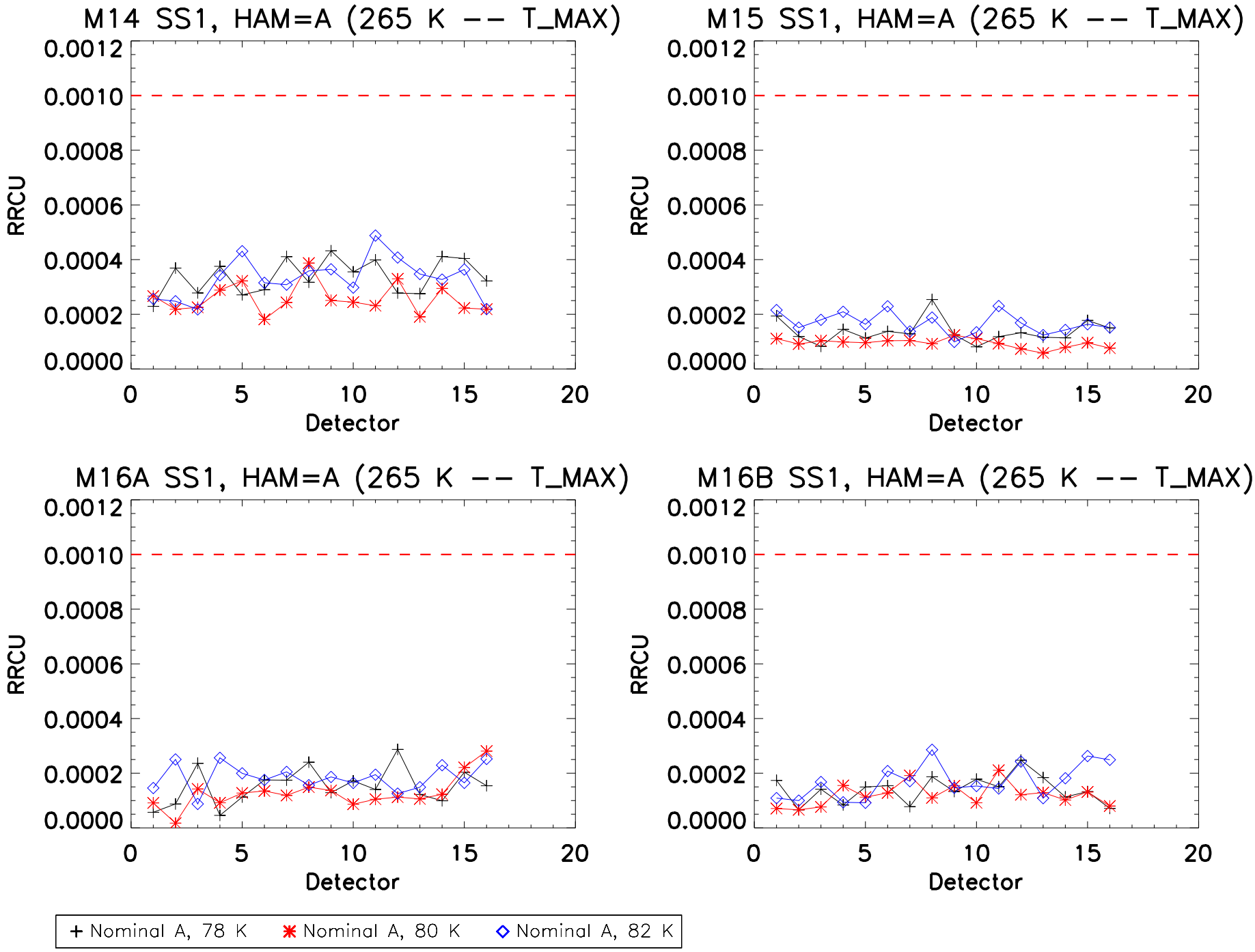
Detector Variation in RRCU



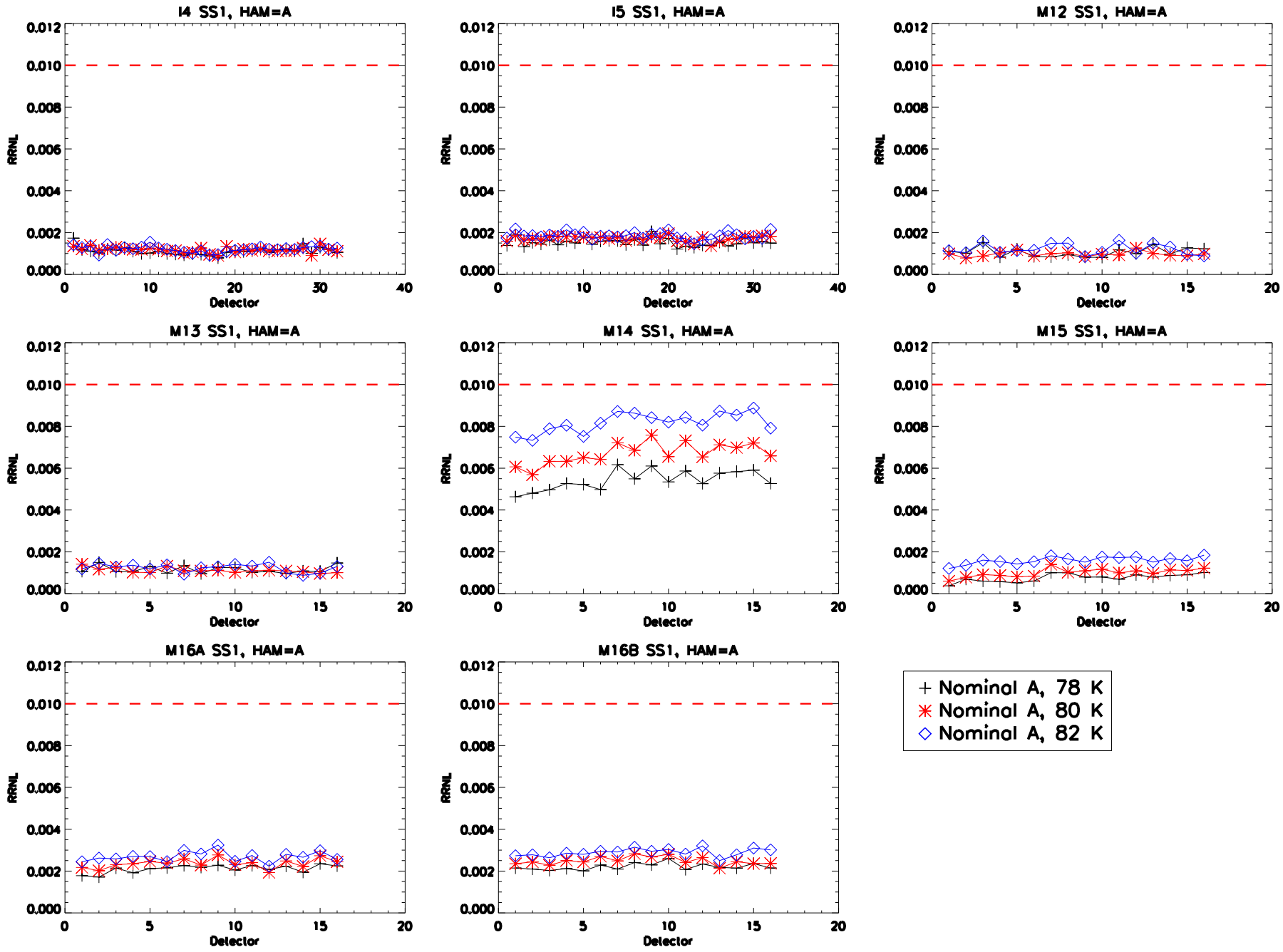
Detector Variation in RRCU

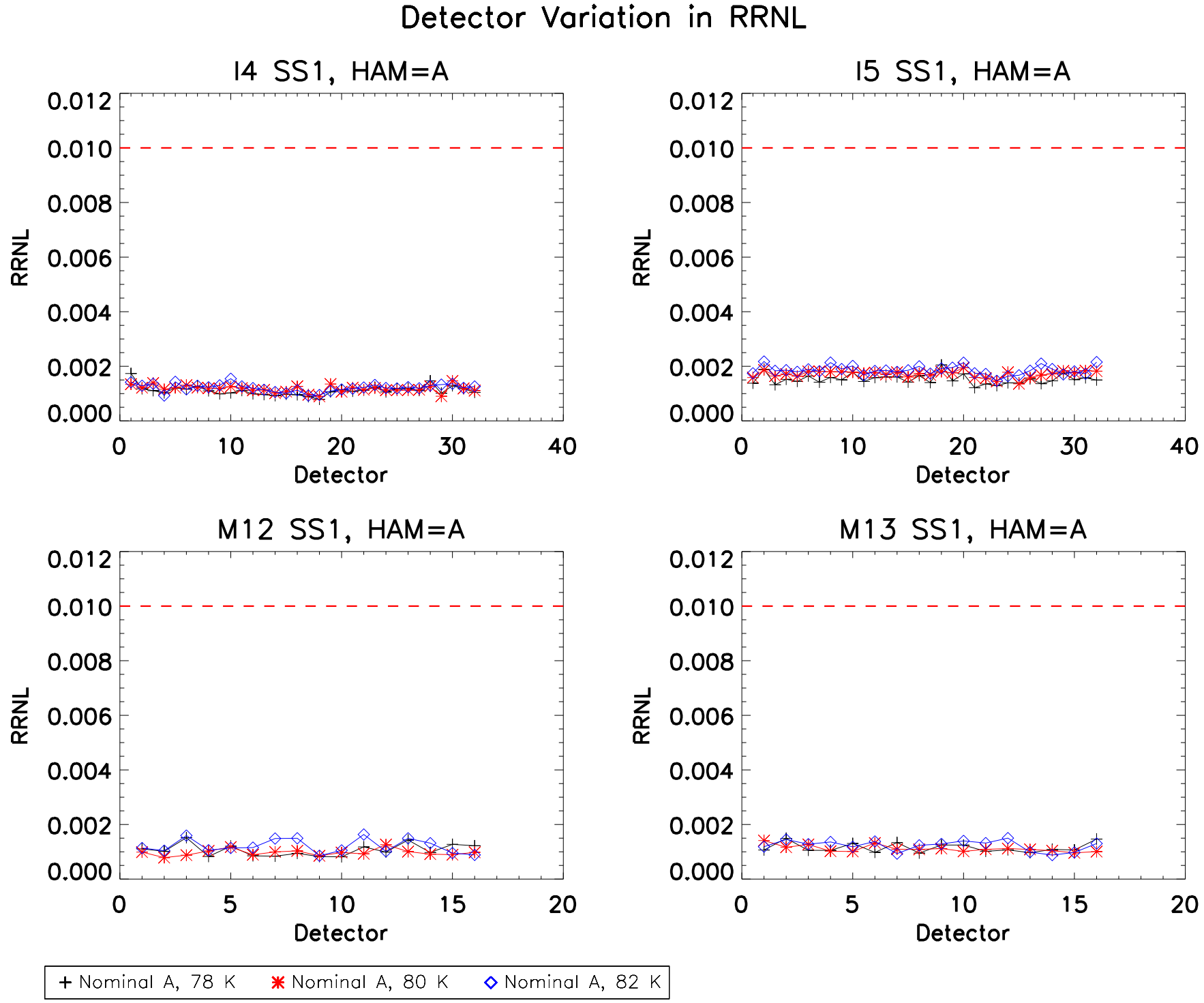


Detector Variation in RRCU

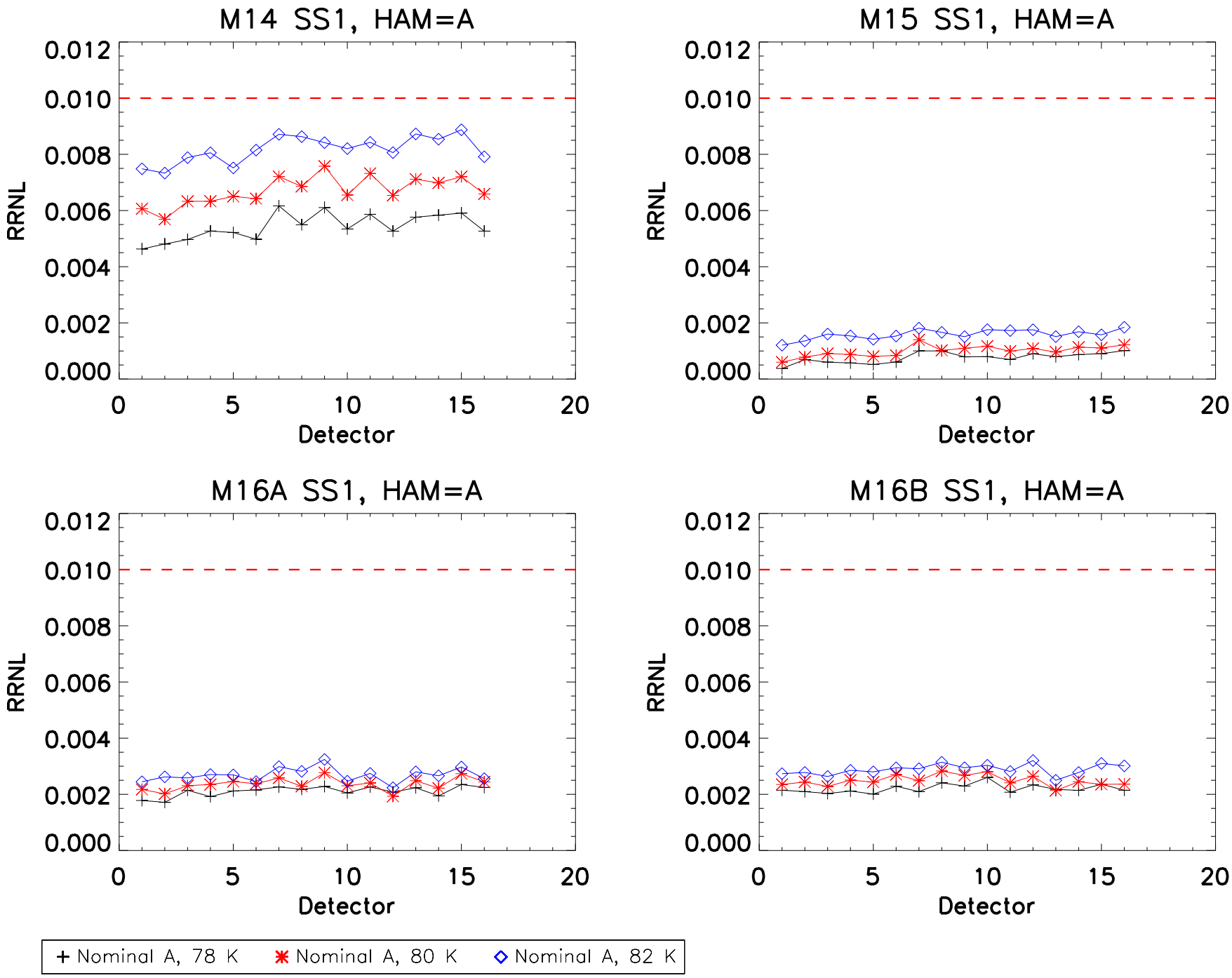


Detector Variation in RRNL

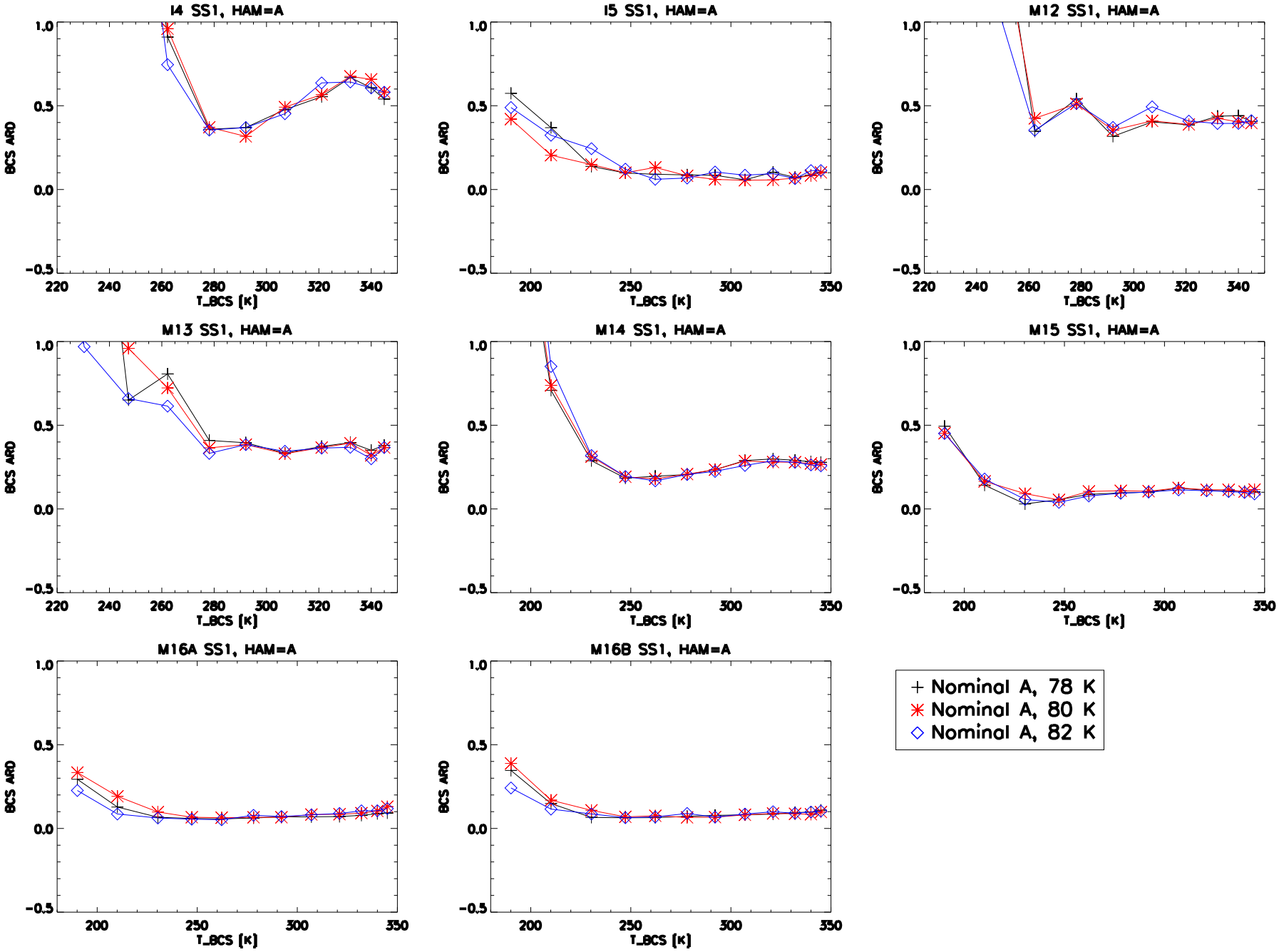



Detector Variation in RRNL
I4 SS1, HAM=A
I5 SS1, HAM=A
M12 SS1, HAM=A
M13 SS1, HAM=A
RRNL
Detector
0.012
0.010
0.008
0.006
0.004
0.002
0.000
0
5
10
15
20
30
40
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K

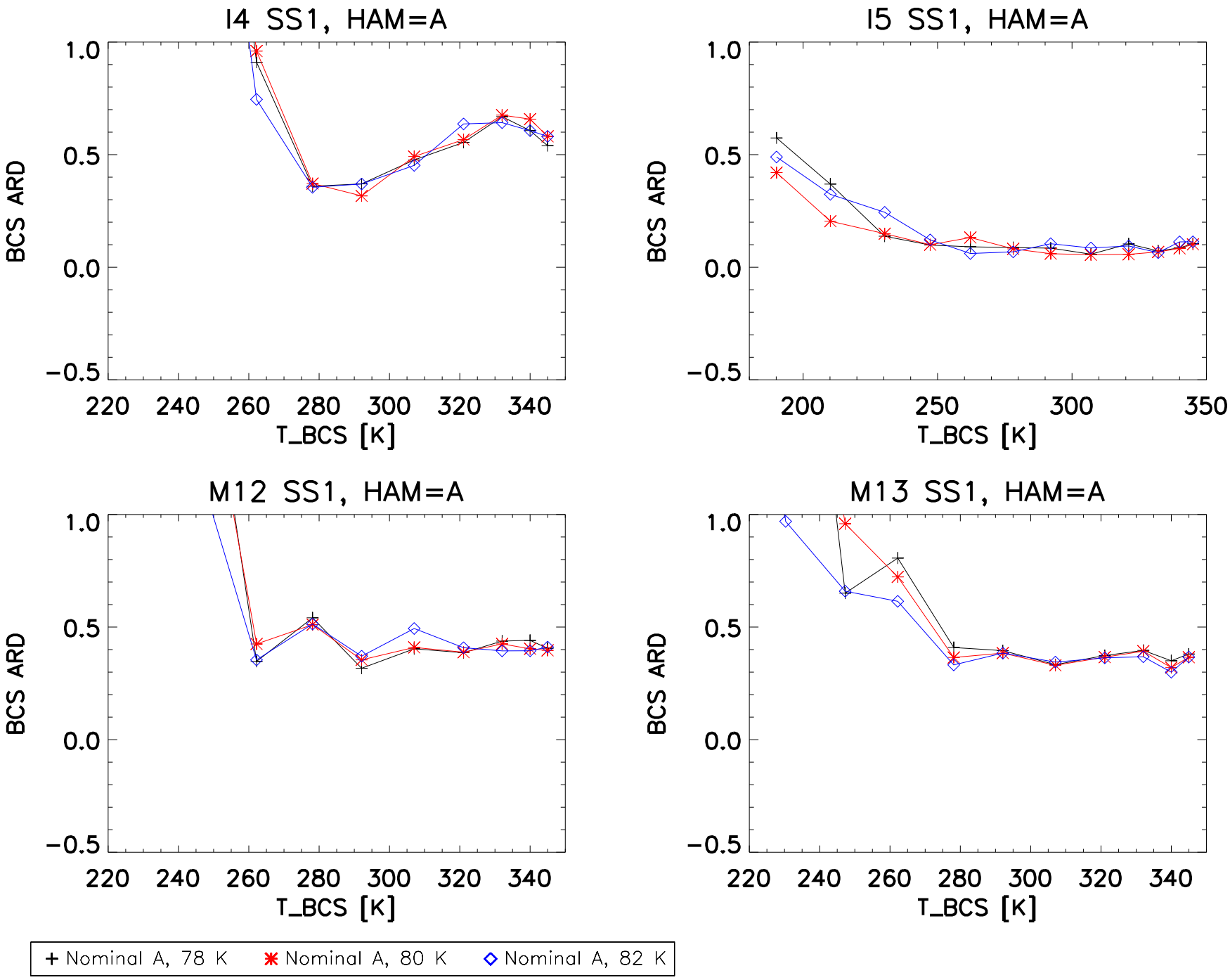
Detector Variation in RRNL



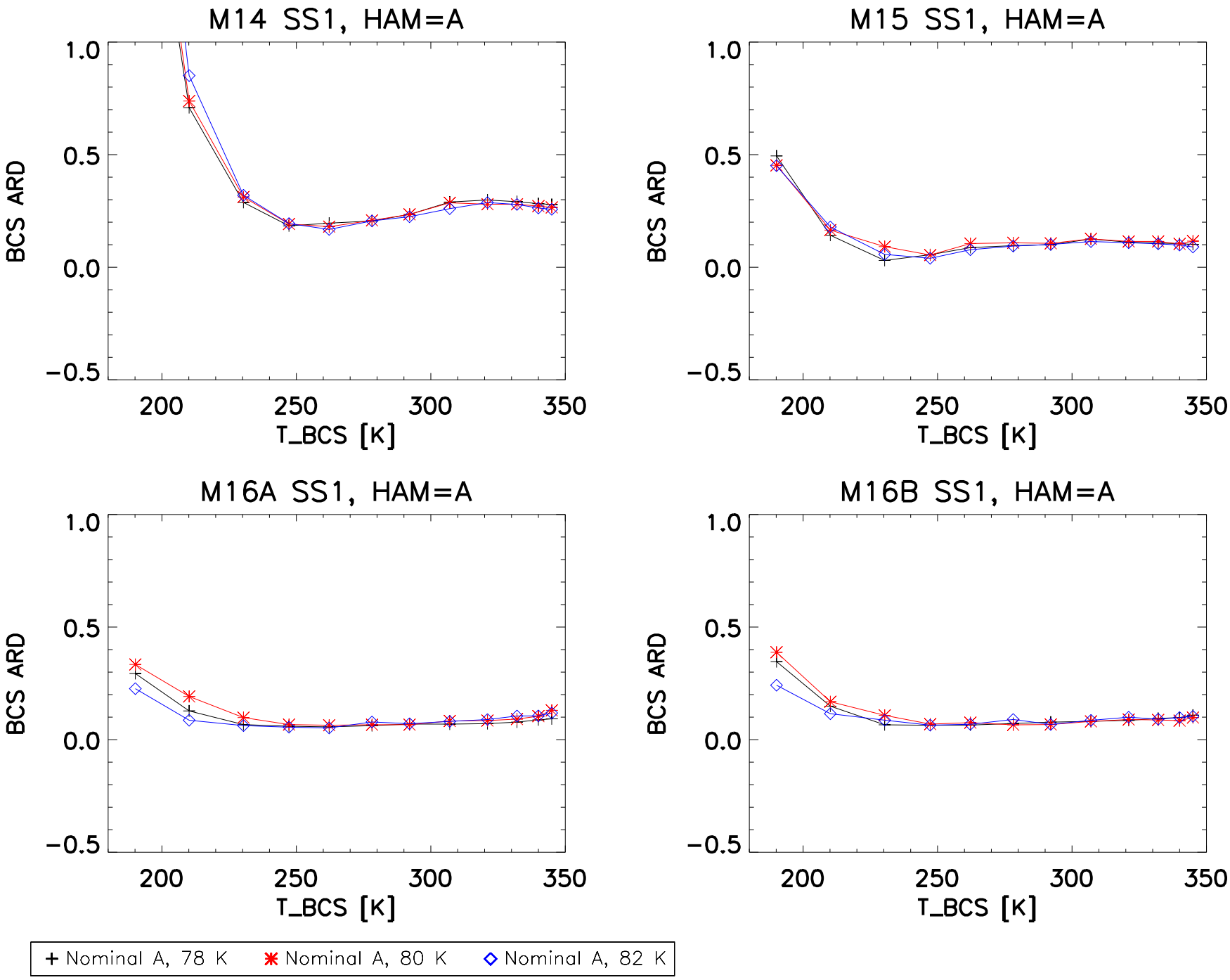
ARD vs T_BCS


I4 SS1, HAM=A
I5 SS1, HAM=A
M12 SS1, HAM=A
M13 SS1, HAM=A
M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
BCS ARD
T_BCS (K)
Nominal A, 78 K
Nominal A, 80 K
Nominal A, 82 K

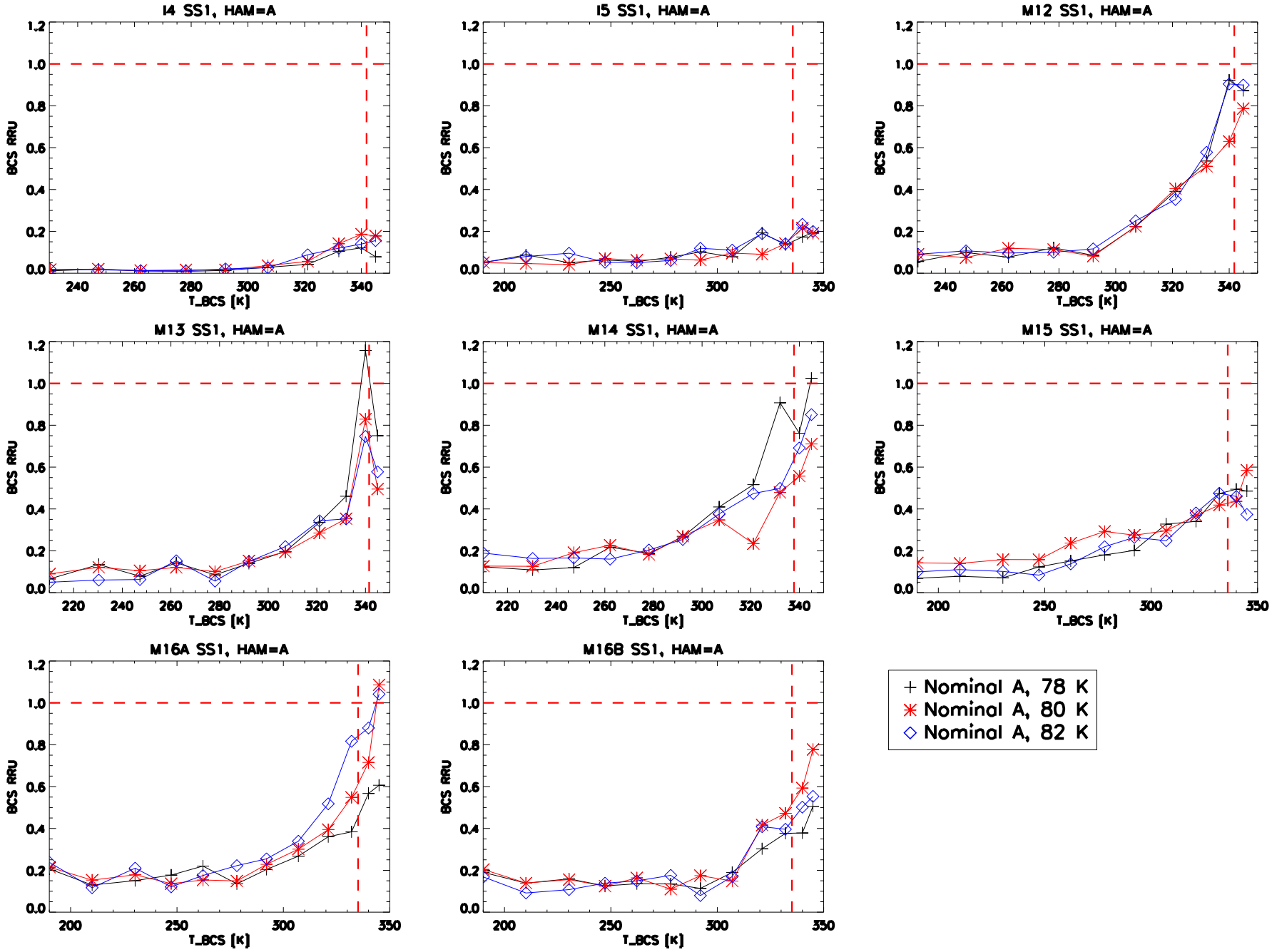
ARD vs T_BCS


I4 SS1, HAM=A
I5 SS1, HAM=A
M12 SS1, HAM=A
M13 SS1, HAM=A
BCS ARD
T_BCS [K]
1.0
0.5
0.0
−0.5
220
240
260
280
300
320
340
200
250
300
350
+ Nominal A, 78 K
✱ Nominal A, 80 K
◇ Nominal A, 82 K

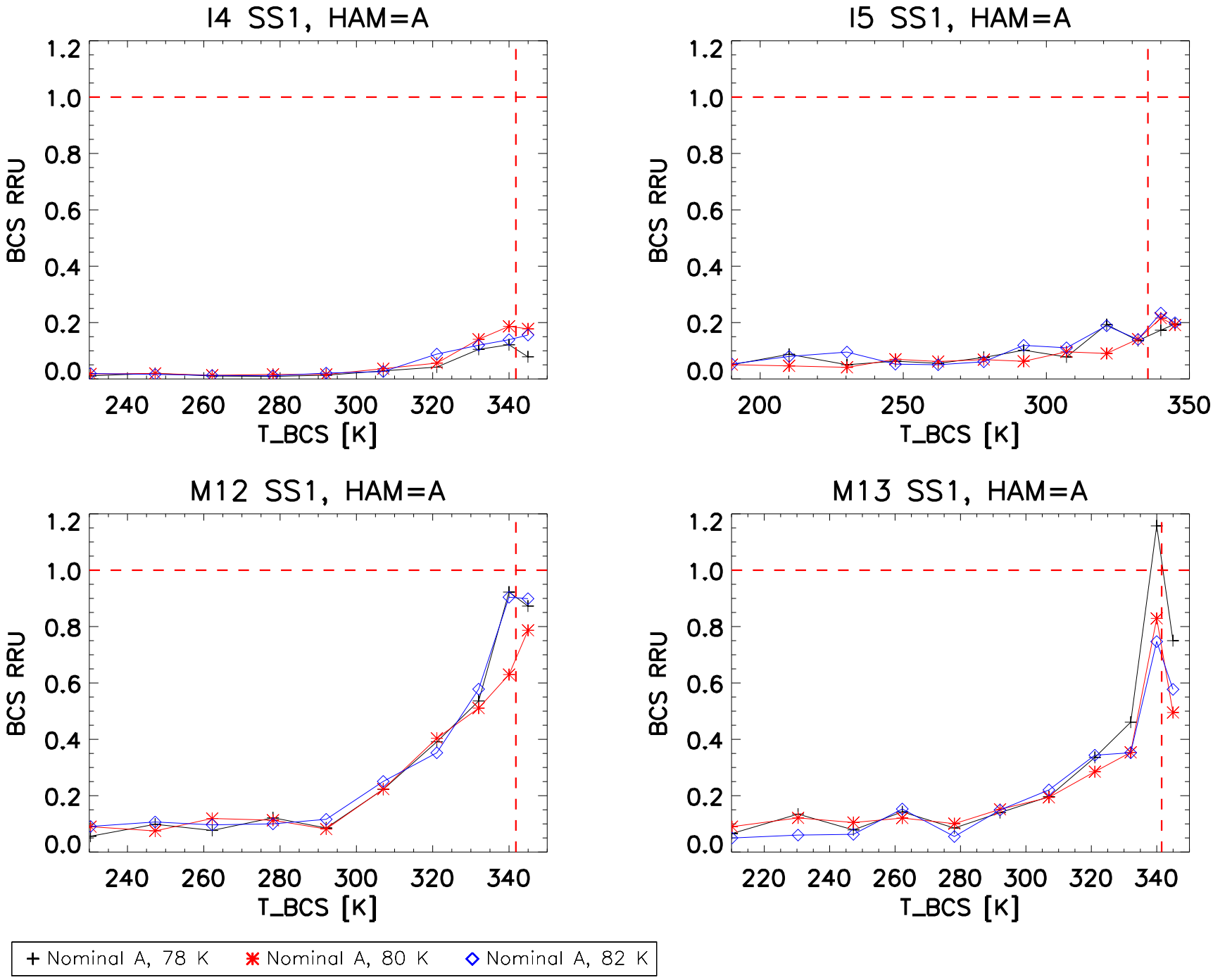
ARD vs T_BCS


M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
BCS ARD
T_BCS [K]
1.0
0.5
0.0
−0.5
200
250
300
350
+ Nominal A, 78 K
✱ Nominal A, 80 K
◇ Nominal A, 82 K

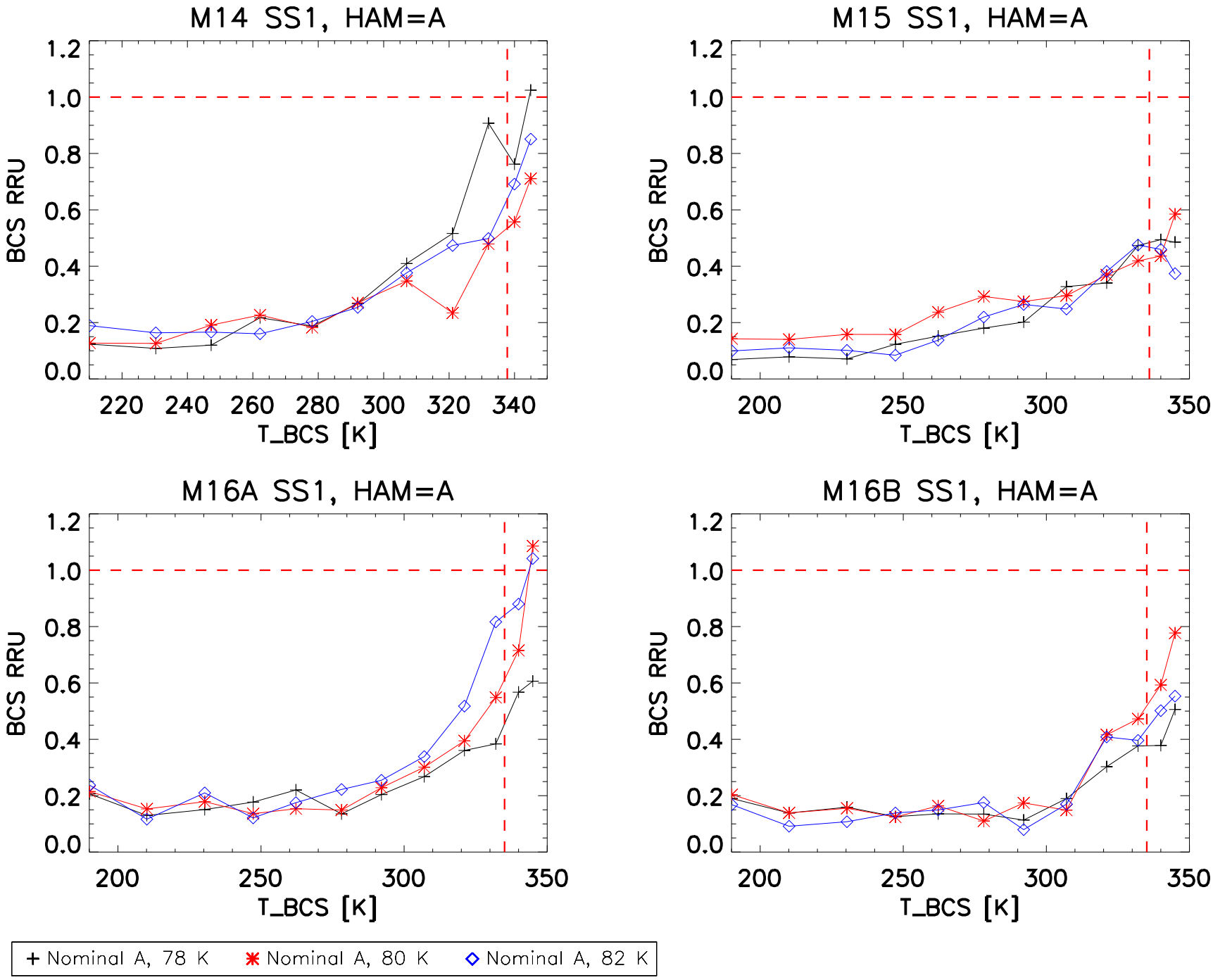
RRU in T_BCS


I4 SS1, HAM=A
I5 SS1, HAM=A
M12 SS1, HAM=A
M13 SS1, HAM=A
M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
BCS RRU
T_BCS (K)
Nominal A, 78 K
Nominal A, 80 K
Nominal A, 82 K

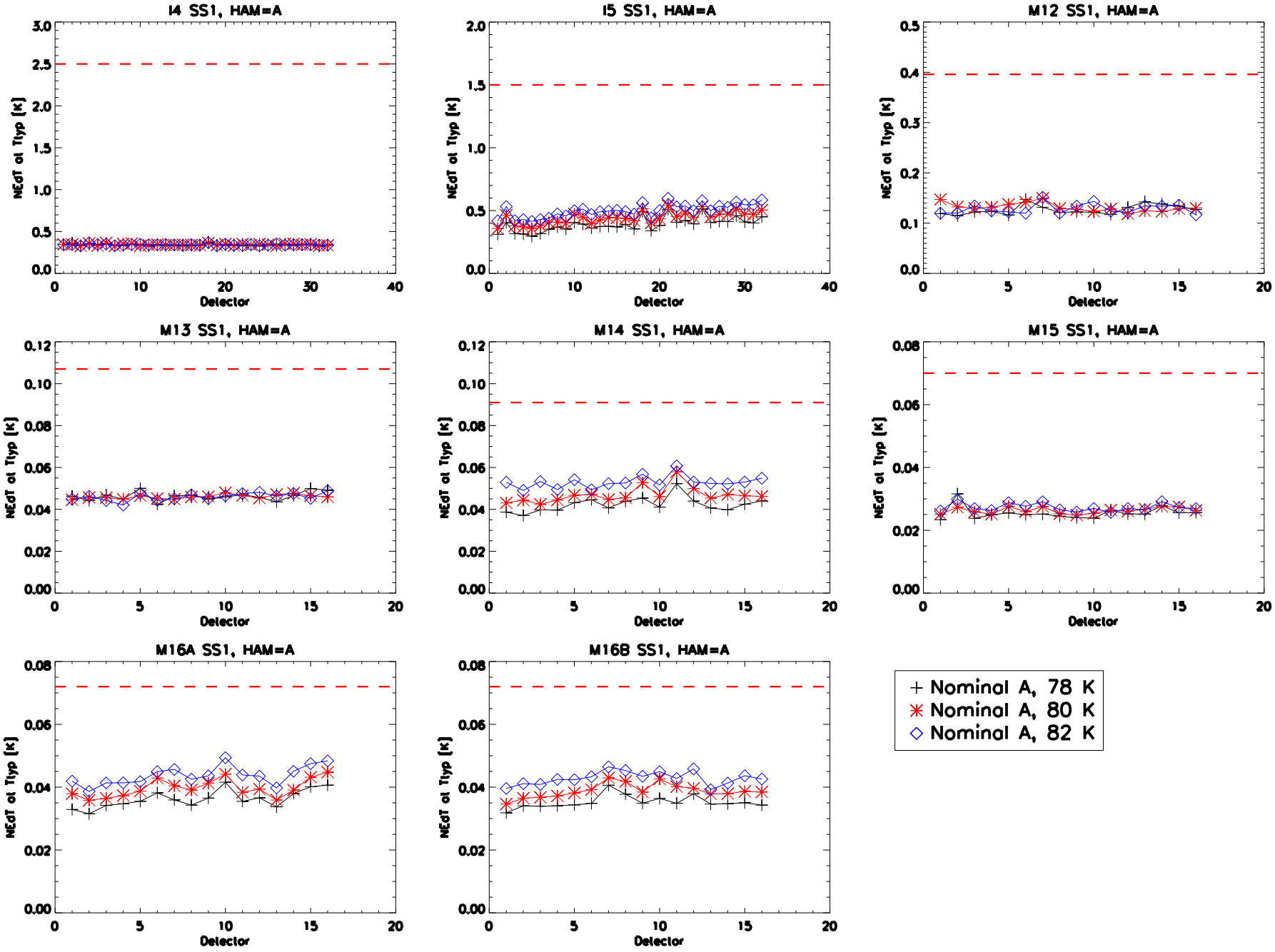
RRU in T_BCS


I4 SS1, HAM=A
I5 SS1, HAM=A
M12 SS1, HAM=A
M13 SS1, HAM=A
BCS RRU
T_BCS [K]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
240
260
280
300
320
340
200
250
300
350
220
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K

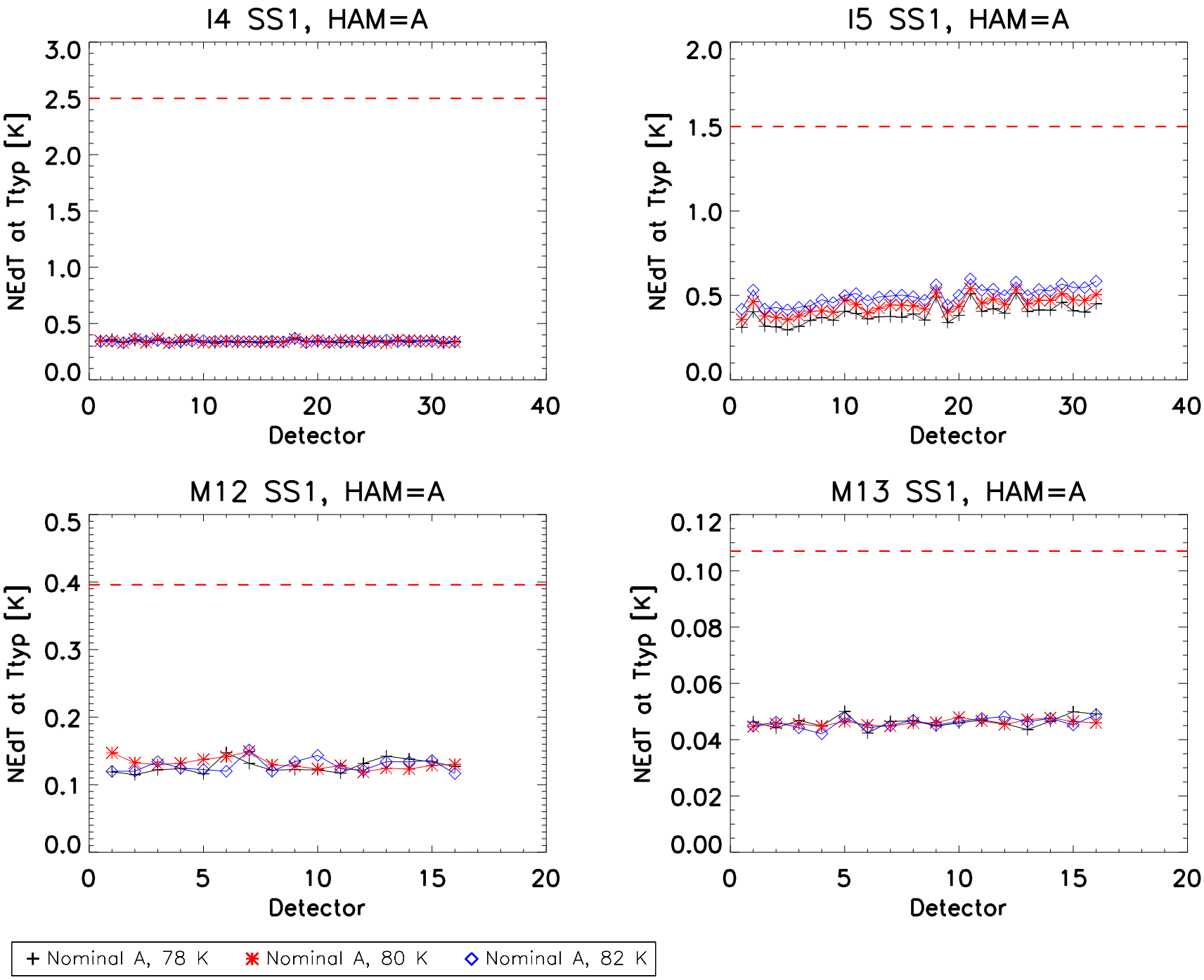
RRU in T_BCS

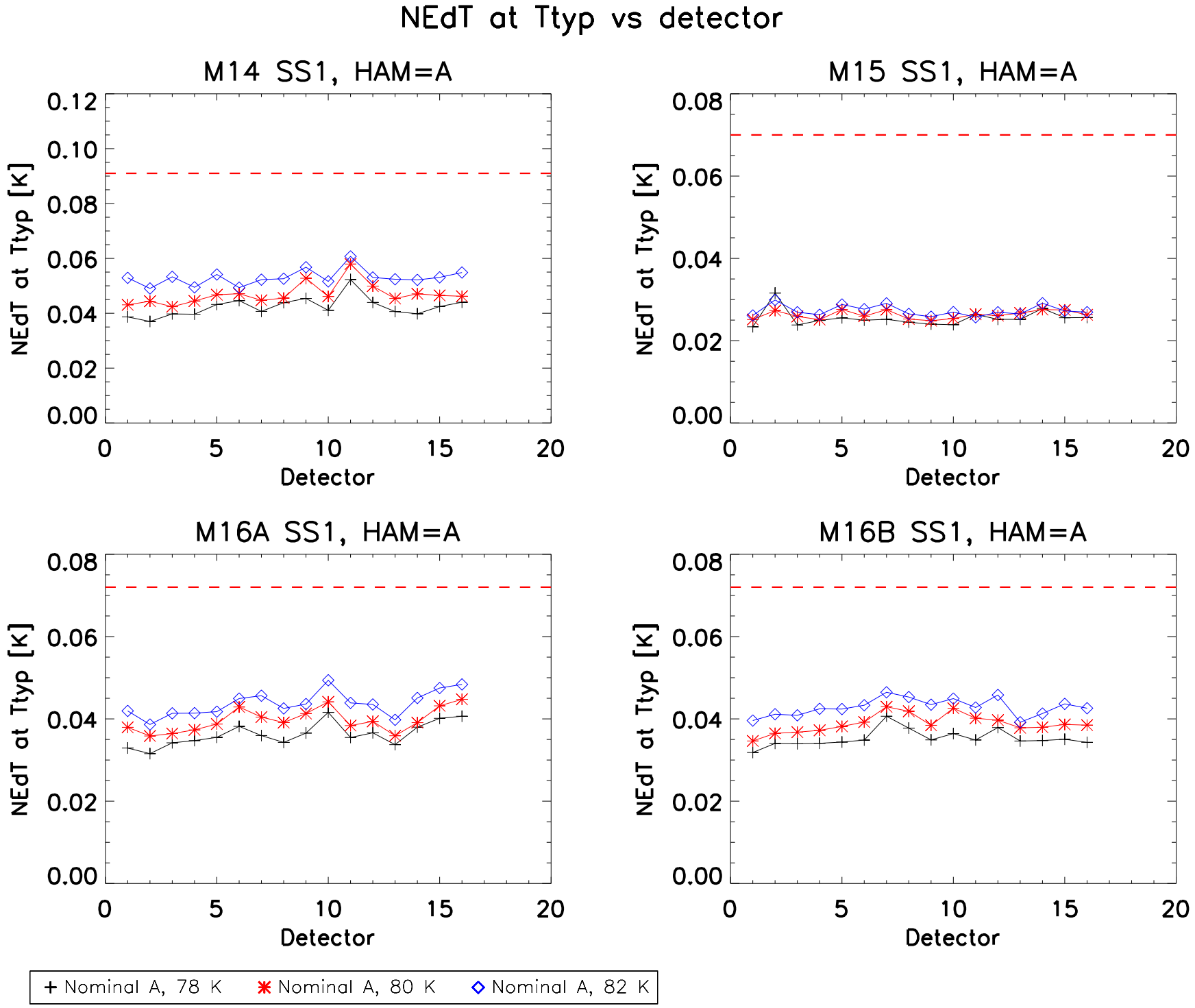

M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
BCS RRU
T_BCS [K]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
200
220
240
250
260
280
300
320
340
350
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K

NEdT at Ttyp vs detector

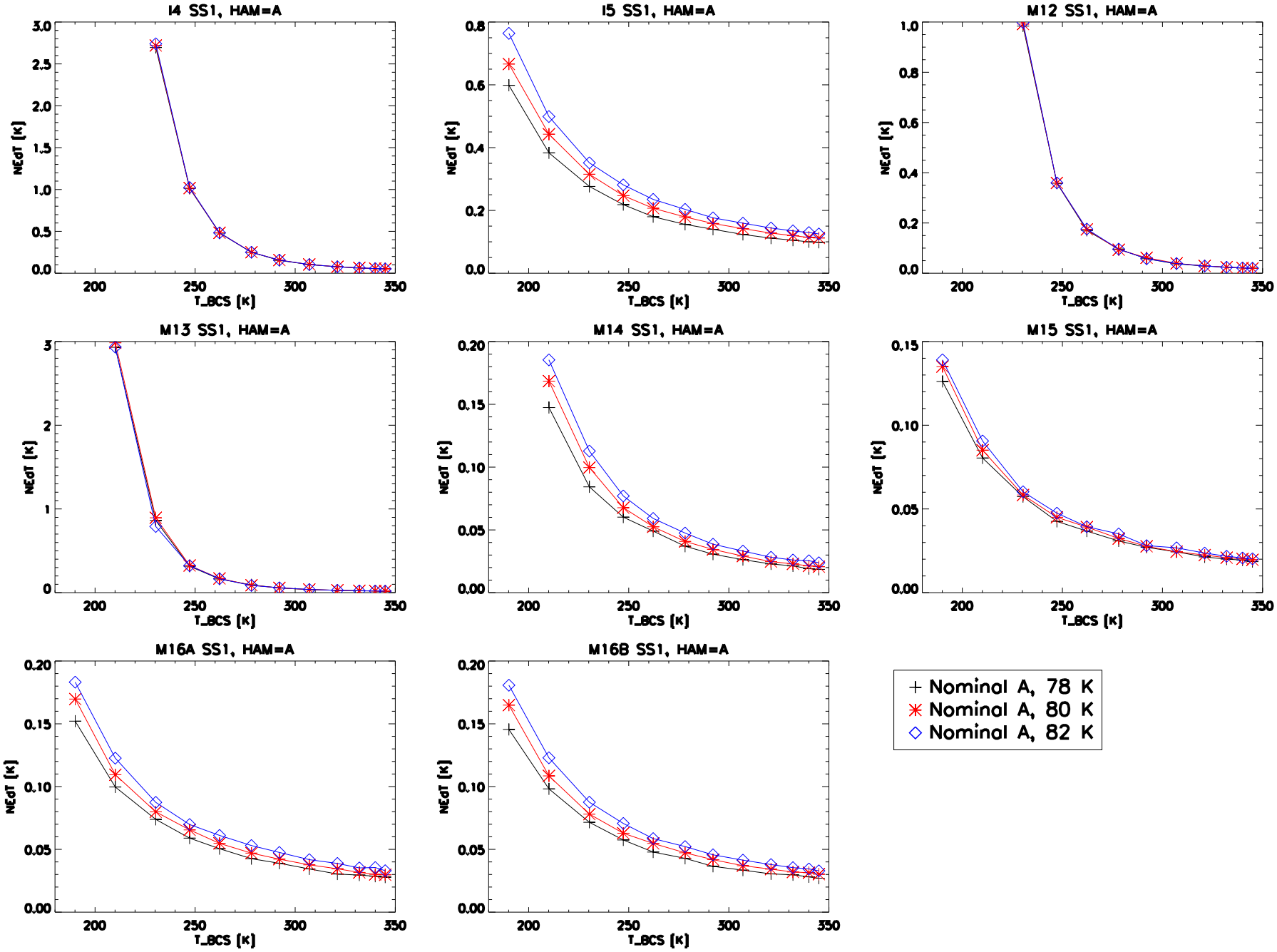


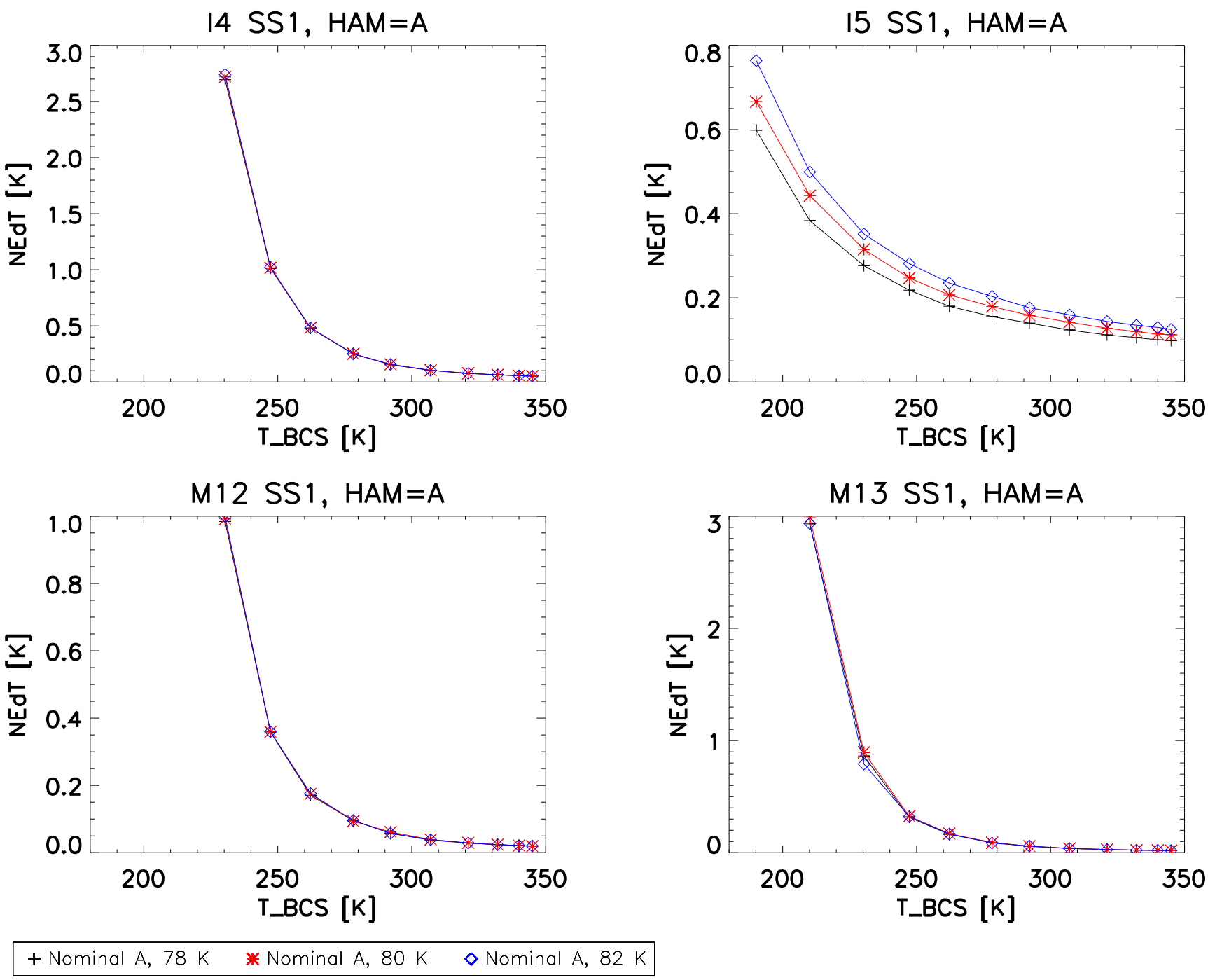
NEdT at Ttyp vs detector

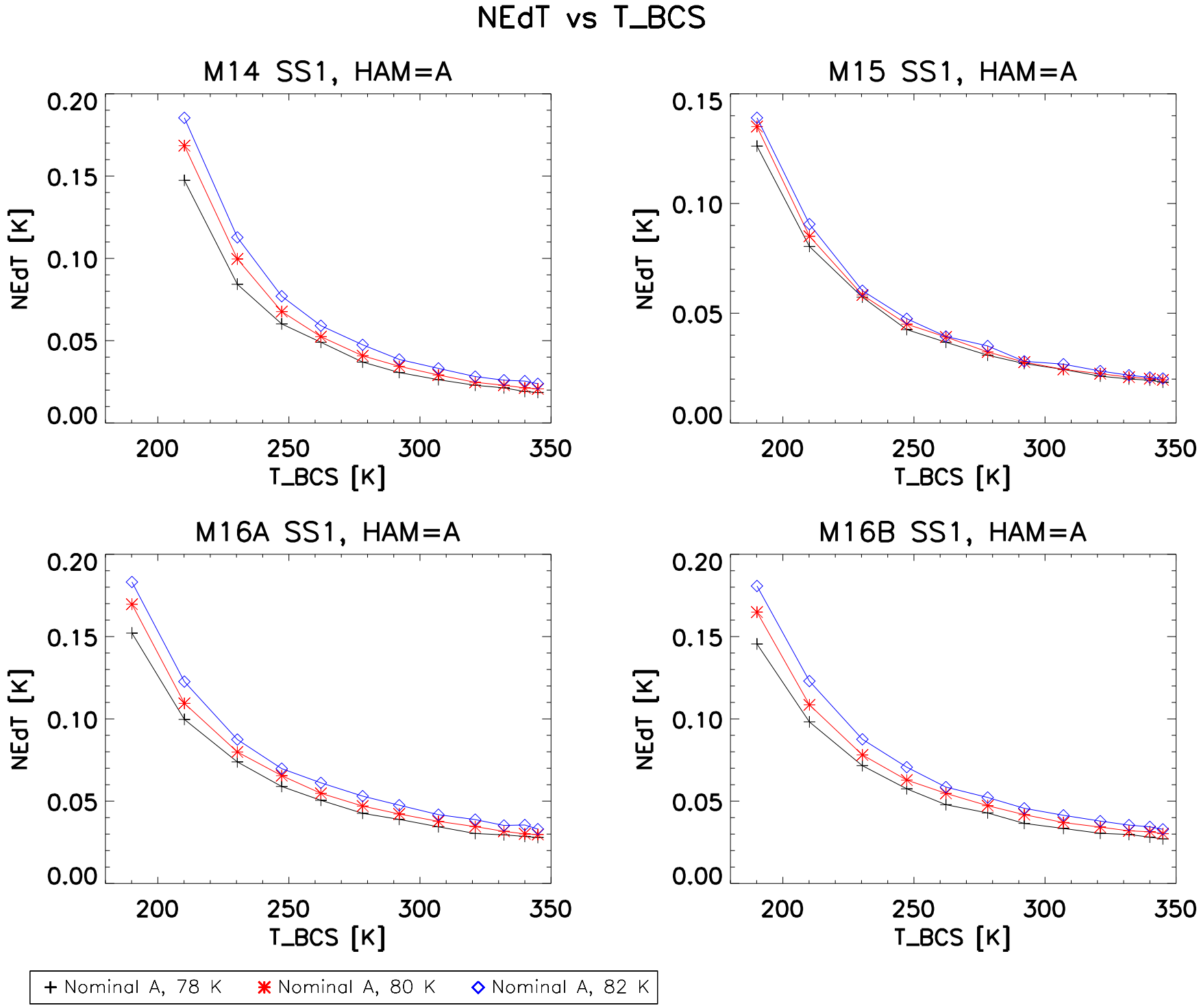


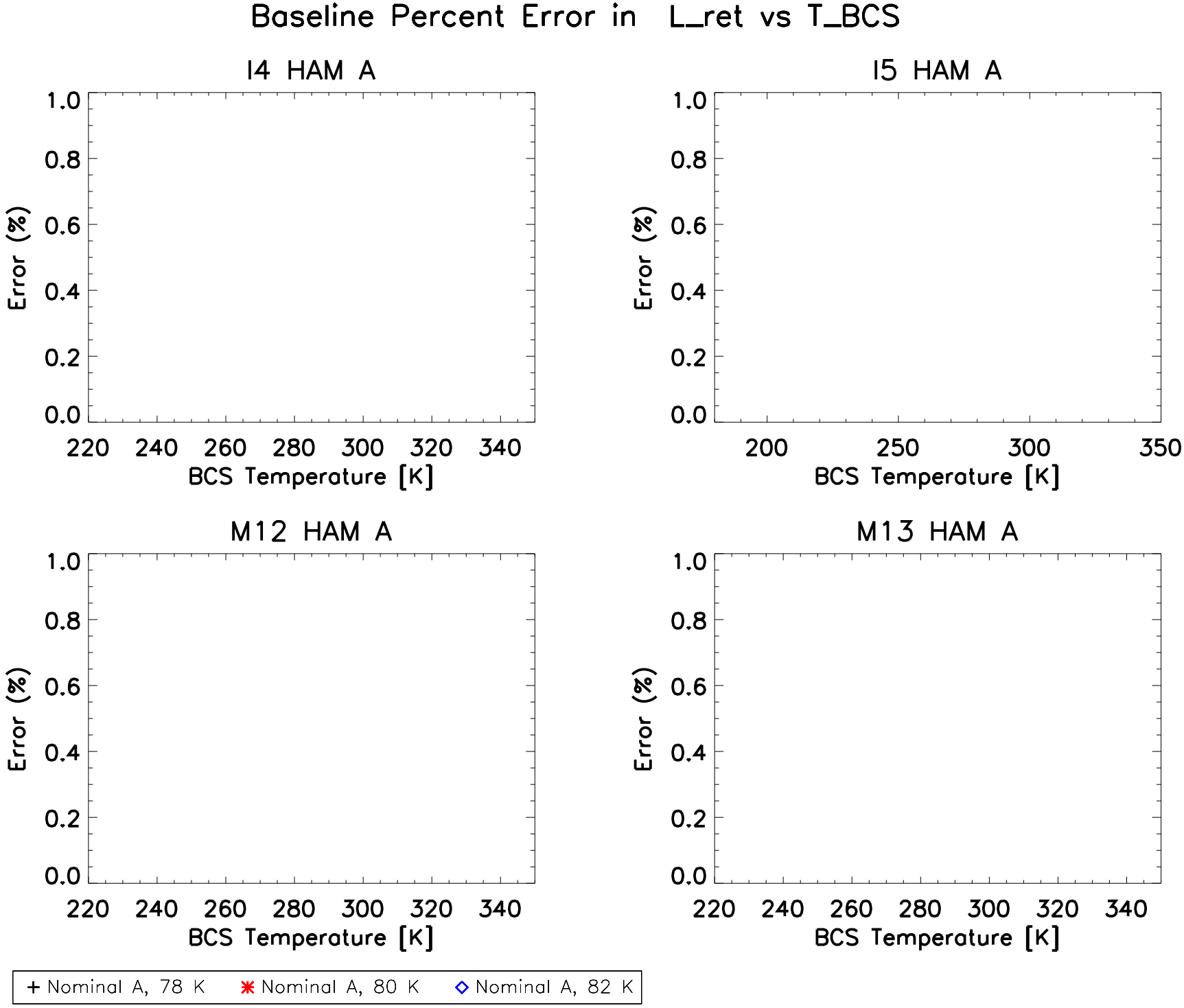

NEdT at Ttyp vs detector
M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
NEdT at Ttyp [K]
Detector
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0
5
10
15
20
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K

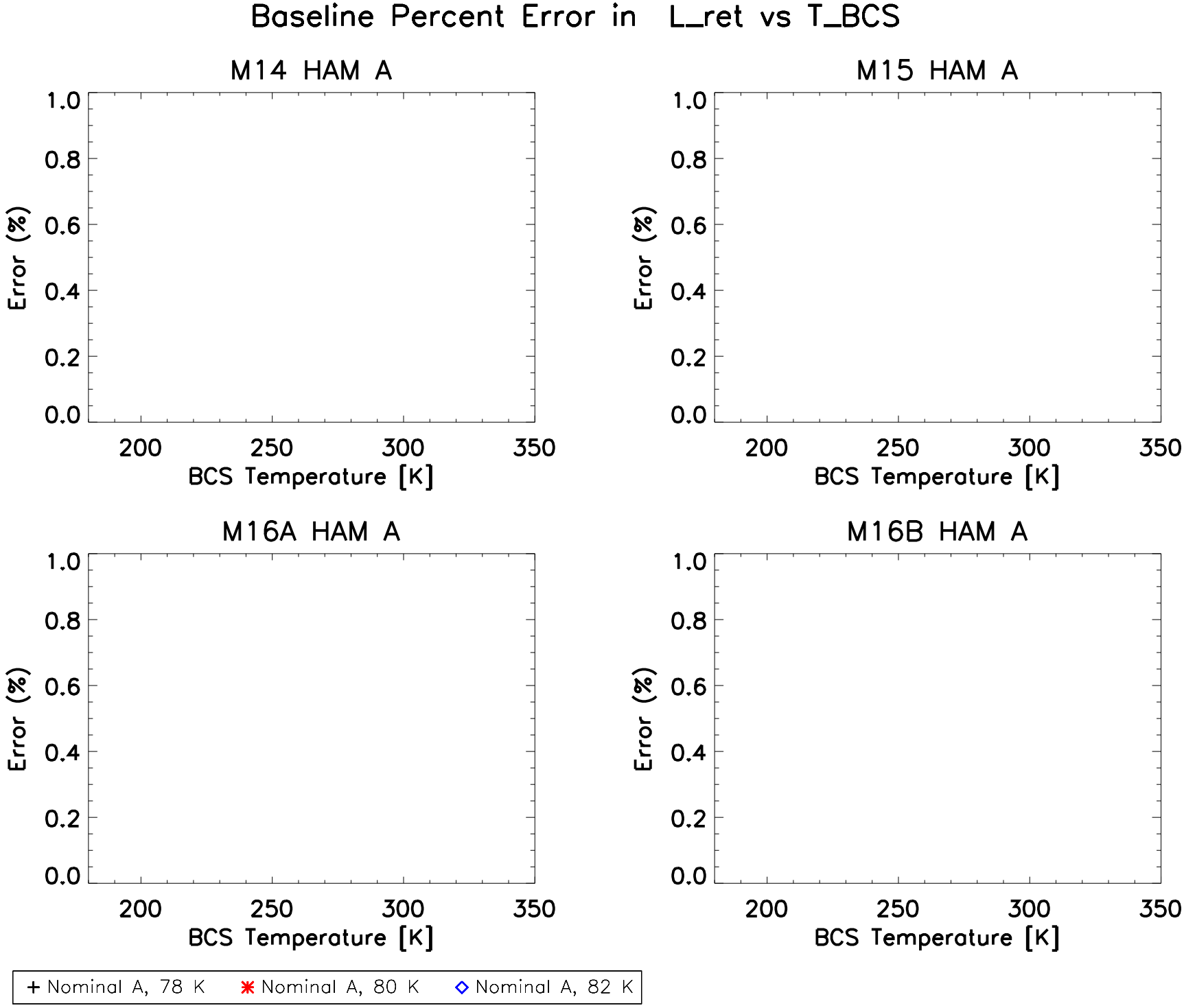
NEdT vs T_BCS

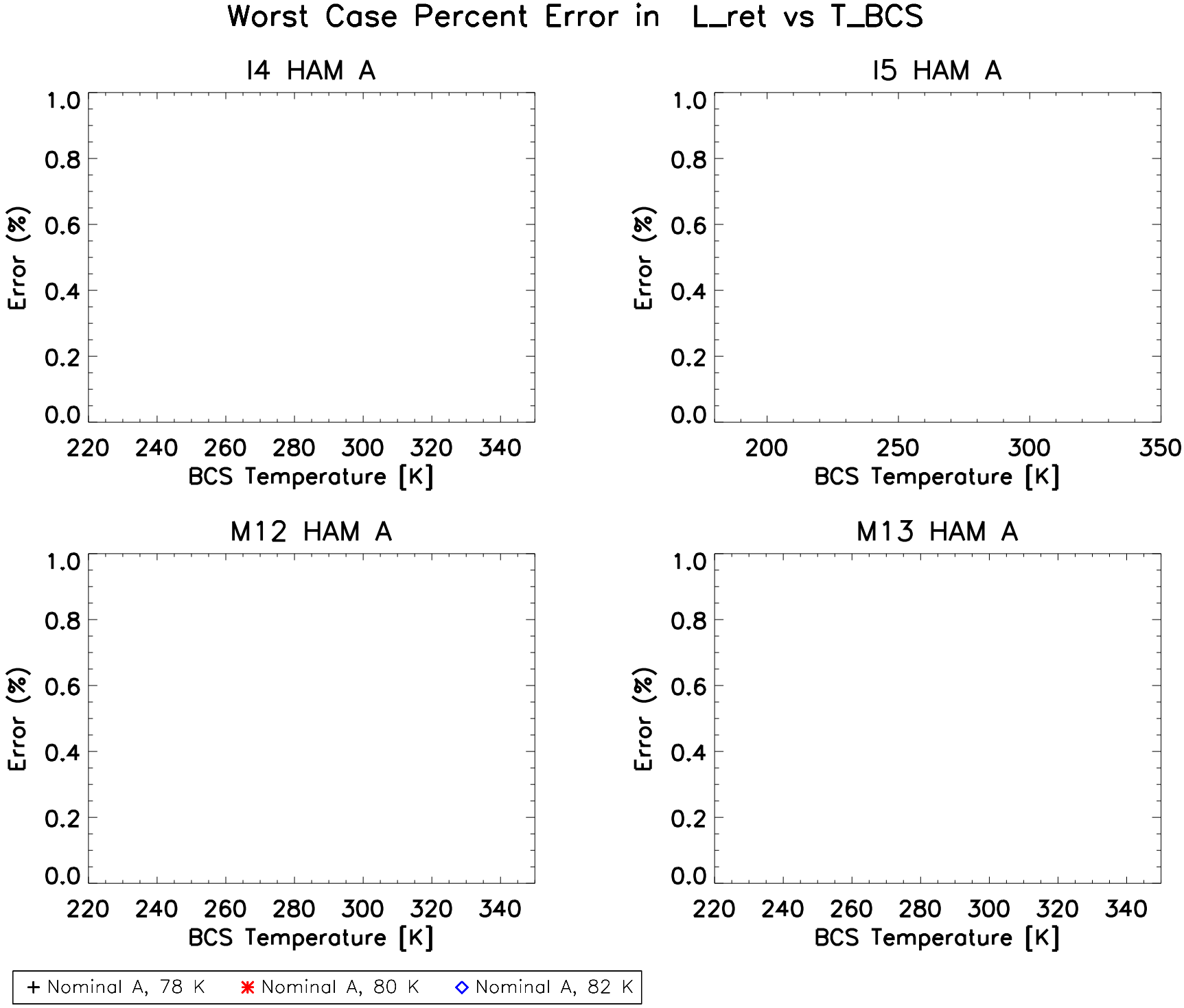

I4 SS1, HAM=A
I5 SS1, HAM=A
M12 SS1, HAM=A
M13 SS1, HAM=A
M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
NEdT [K]
T_BCS [K]
Nominal A, 78 K
Nominal A, 80 K
Nominal A, 82 K

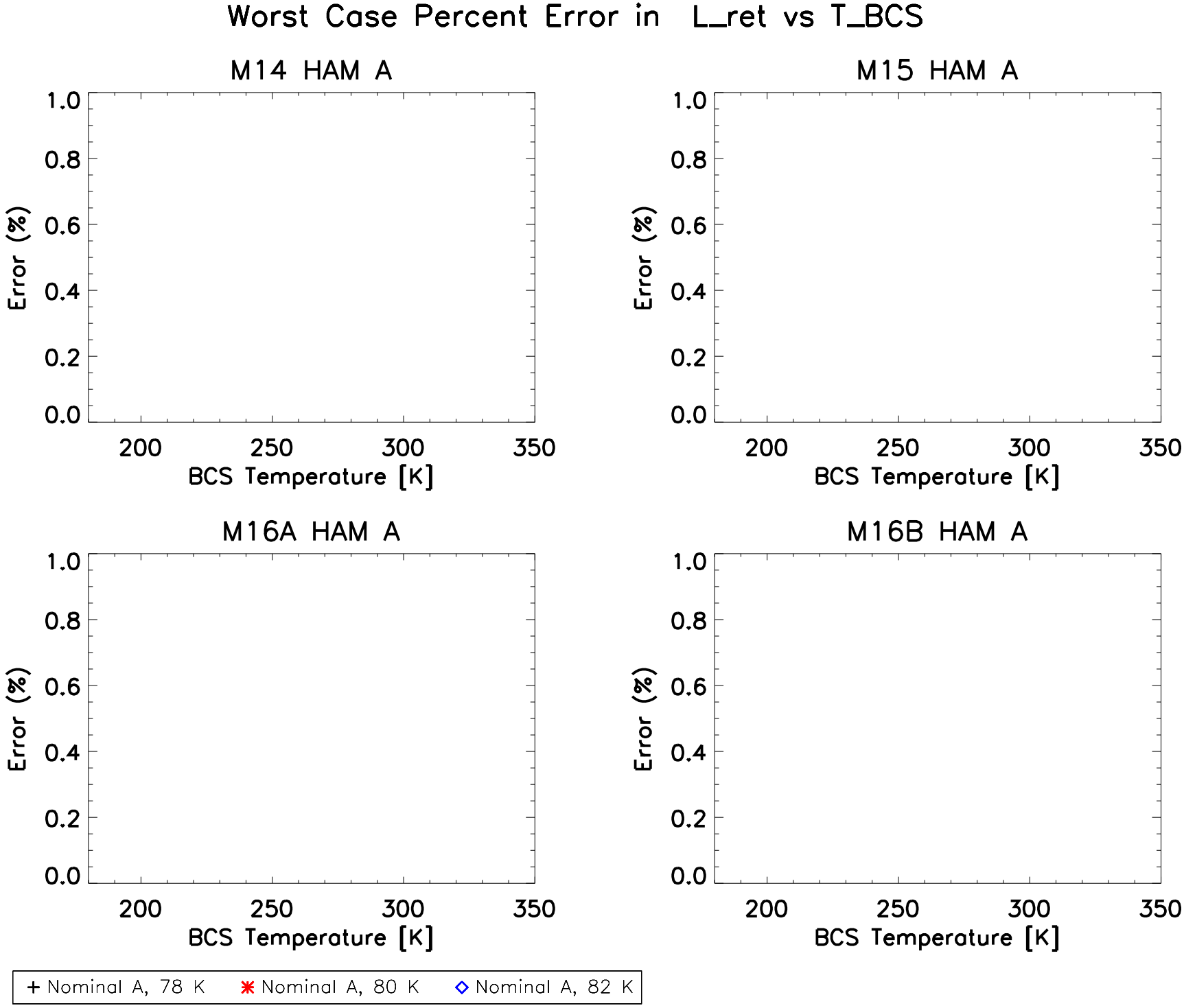

NEdT vs T_BCS
I4 SS1, HAM=A
I5 SS1, HAM=A
M12 SS1, HAM=A
M13 SS1, HAM=A
NEdT [K]
T_BCS [K]
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.8
0.6
0.4
0.2
200
250
300
350
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K


NEdT vs T_BCS
M14 SS1, HAM=A
M15 SS1, HAM=A
M16A SS1, HAM=A
M16B SS1, HAM=A
NEdT [K]
T_BCS [K]
0.00
0.05
0.10
0.15
0.20
200
250
300
350
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K


Baseline Percent Error in L_ret vs T_BCS
I4 HAM A
I5 HAM A
M12 HAM A
M13 HAM A
Error (%)
BCS Temperature [K]
0.0
0.2
0.4
0.6
0.8
1.0
220
240
260
280
300
320
340
200
250
300
350
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K


Baseline Percent Error in L_ret vs T_BCS
M14 HAM A
M15 HAM A
M16A HAM A
M16B HAM A
Error (%)
BCS Temperature [K]
0.0
0.2
0.4
0.6
0.8
1.0
200
250
300
350
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K


Worst Case Percent Error in L_ret vs T_BCS
I4 HAM A
I5 HAM A
M12 HAM A
M13 HAM A
Error (%)
BCS Temperature [K]
1.0
0.8
0.6
0.4
0.2
0.0
220 240 260 280 300 320 340
200 250 300 350
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K


Worst Case Percent Error in L_ret vs T_BCS
M14 HAM A
M15 HAM A
M16A HAM A
M16B HAM A
Error (%)
BCS Temperature [K]
0.0
0.2
0.4
0.6
0.8
1.0
200
250
300
350
+ Nominal A, 78 K
* Nominal A, 80 K
◇ Nominal A, 82 K