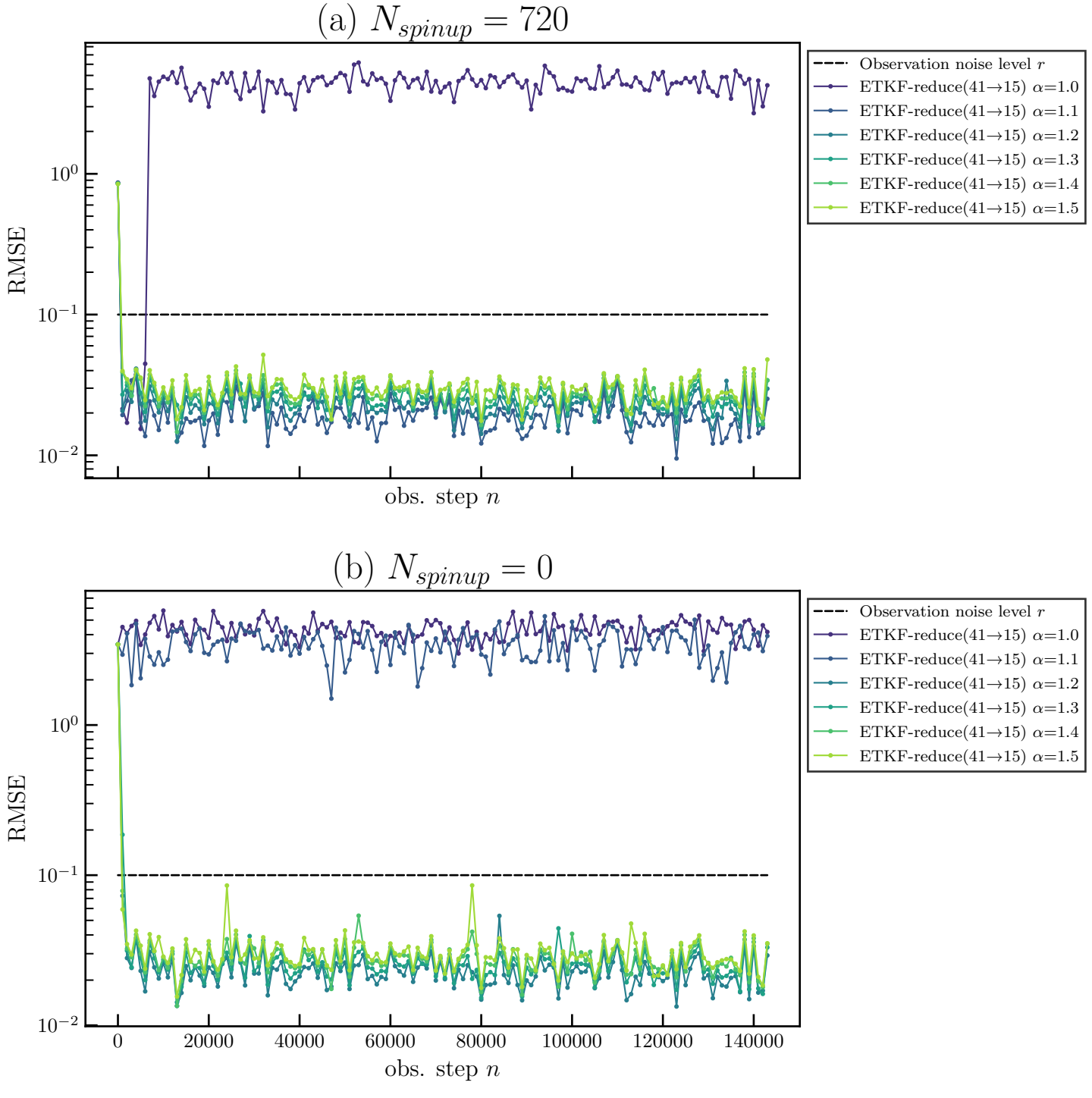
(a) $N_{spinup} = 720$
RMSE
10^0
10^{-1}
10^{-2}
obs. step n
Observation noise level r
ETKF-reduce(41→15) α=1.0
ETKF-reduce(41→15) α=1.1
ETKF-reduce(41→15) α=1.2
ETKF-reduce(41→15) α=1.3
ETKF-reduce(41→15) α=1.4
ETKF-reduce(41→15) α=1.5
(b) $N_{spinup} = 0$
RMSE
10^0
10^{-1}
10^{-2}
0
20000
40000
60000
80000
100000
120000
140000
obs. step n
Observation noise level r
ETKF-reduce(41→15) α=1.0
ETKF-reduce(41→15) α=1.1
ETKF-reduce(41→15) α=1.2
ETKF-reduce(41→15) α=1.3
ETKF-reduce(41→15) α=1.4
ETKF-reduce(41→15) α=1.5