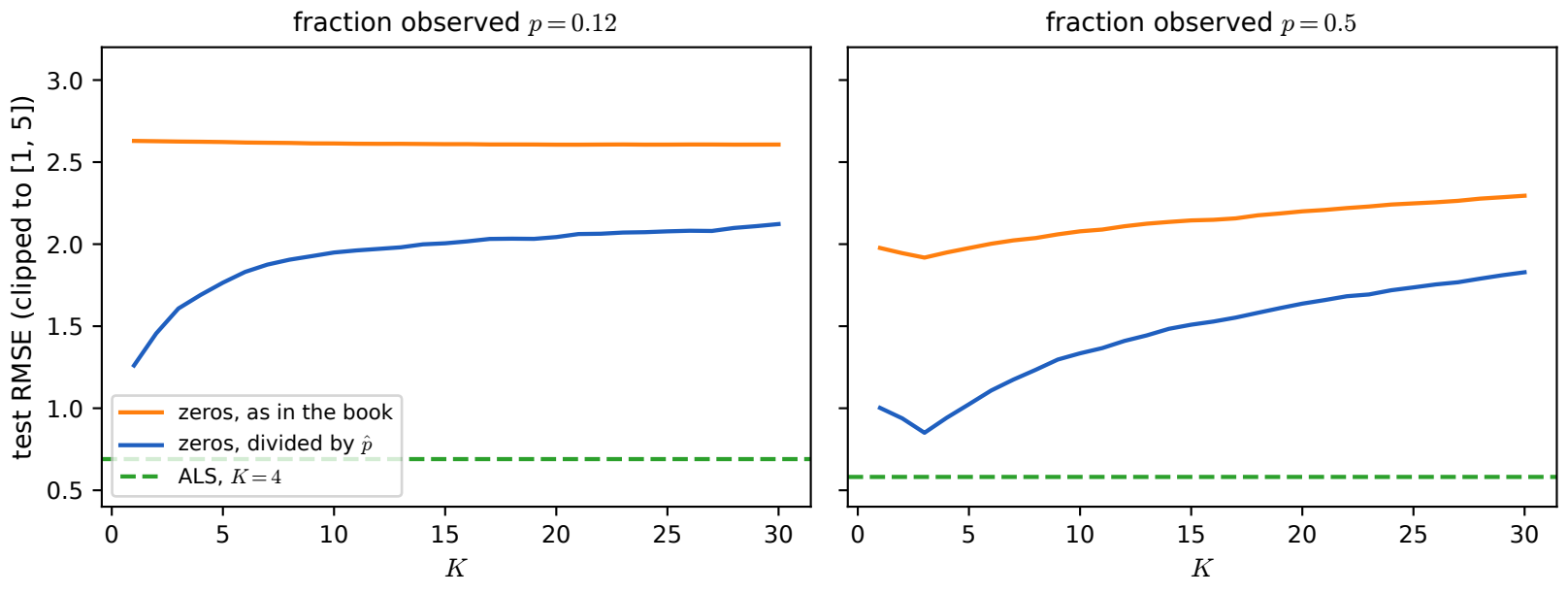

fraction observed $p = 0.12$
fraction observed $p = 0.5$
test RMSE (clipped to [1, 5])
3.0
2.5
2.0
1.5
1.0
0.5
0
5
10
15
20
25
30
K
zeros, as in the book
zeros, divided by $\hat{p}$
ALS, $K = 4$