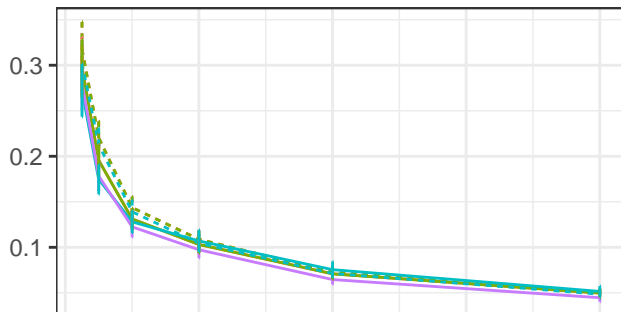
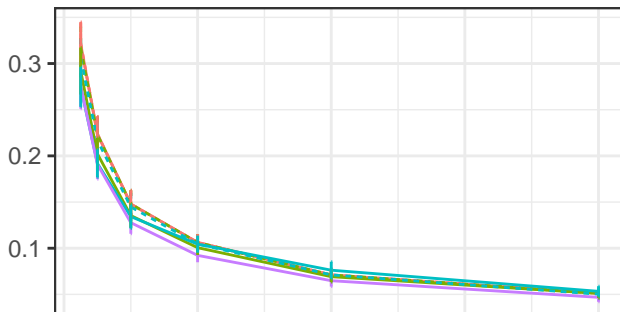
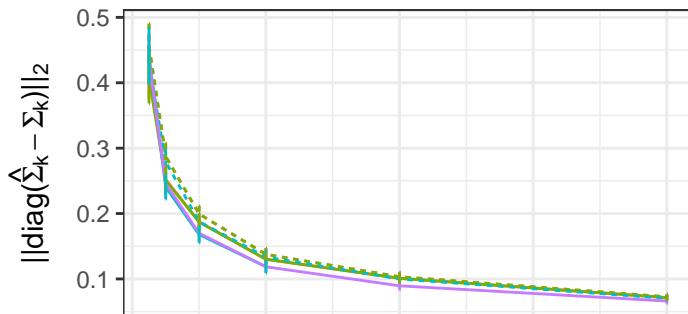
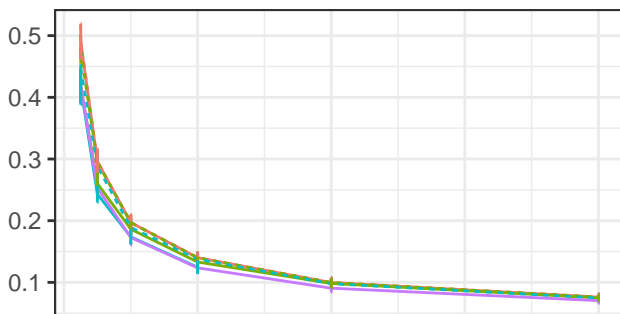
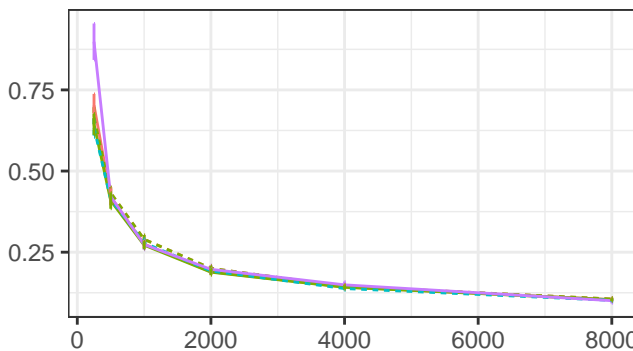
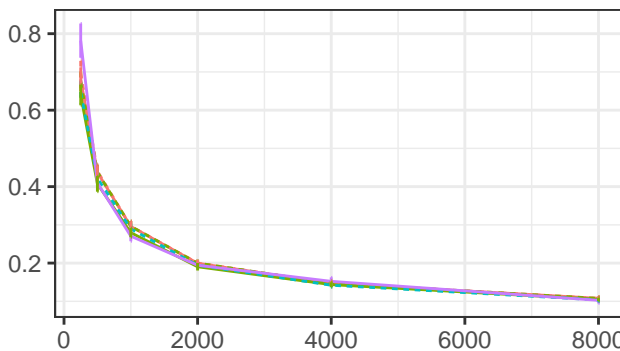
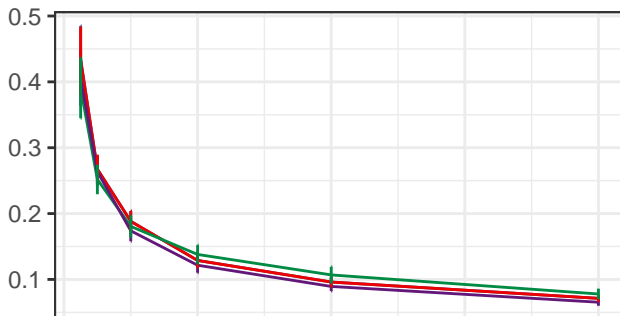
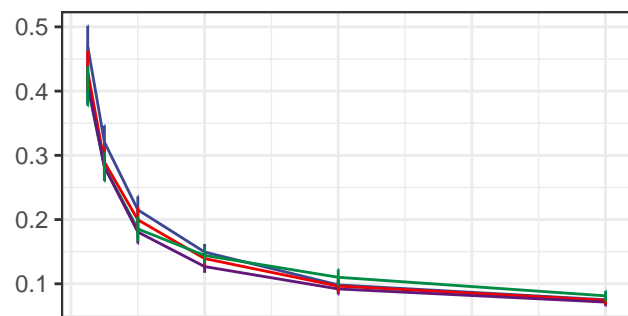
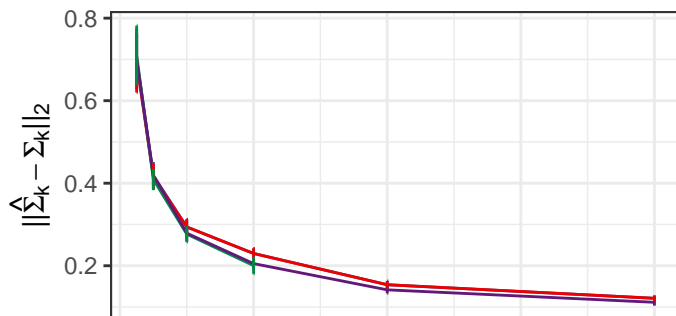
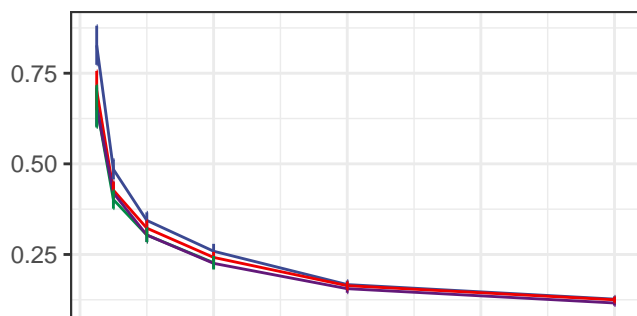
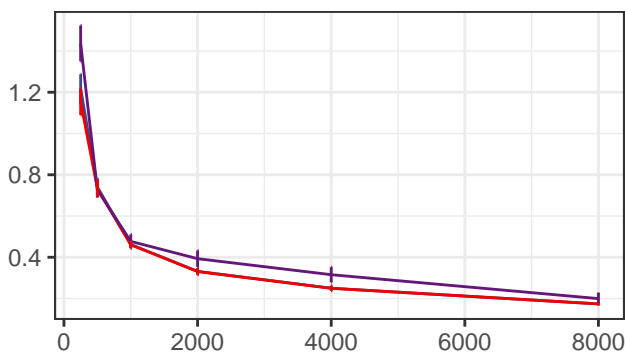
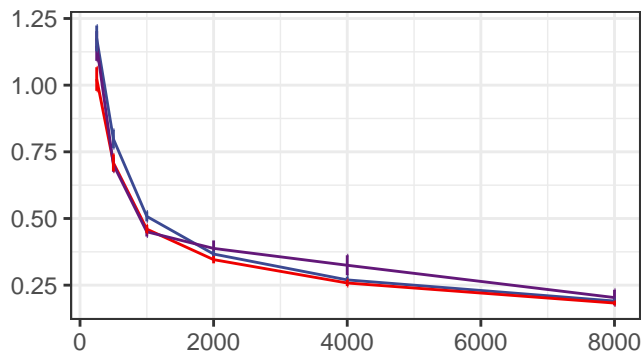


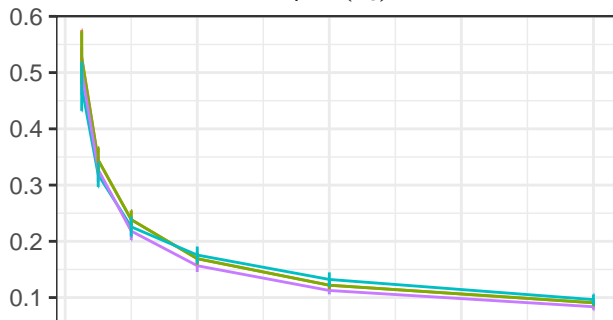
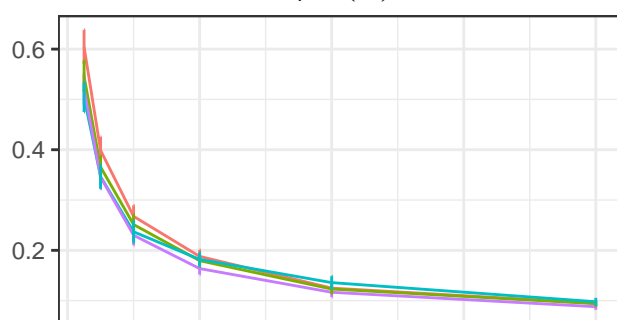
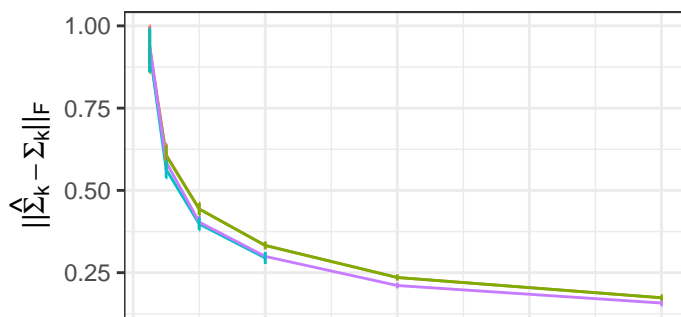
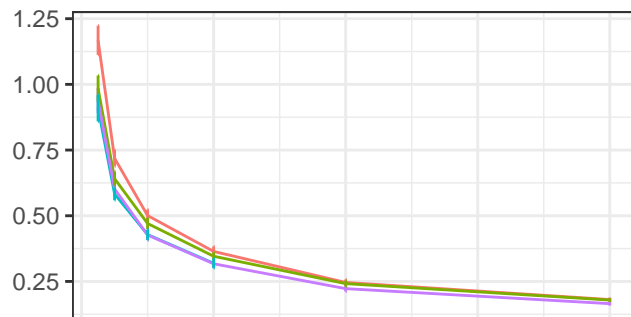
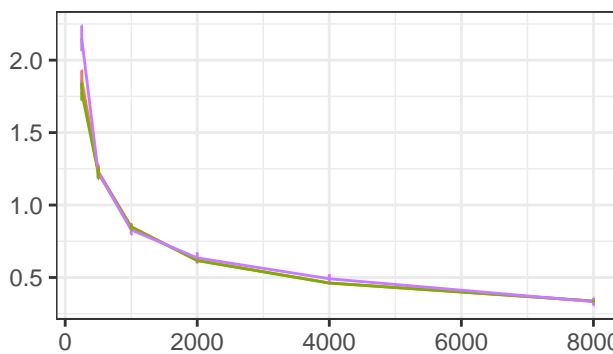
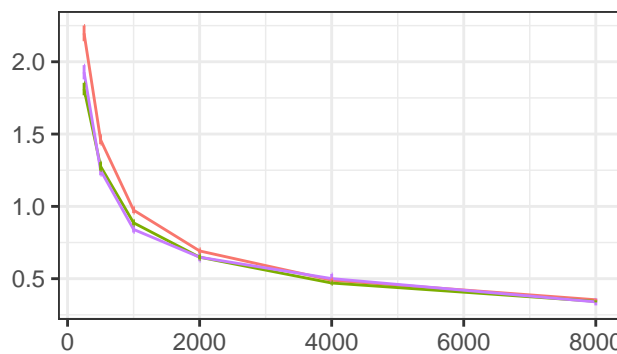
$q = 5 (\hat{\Sigma}_G)$  $q = 5 (\hat{\Sigma}_E)$  $q = 10 (\hat{\Sigma}_G)$  $q = 10 (\hat{\Sigma}_E)$  $q = 20 (\hat{\Sigma}_G)$  $q = 20 (\hat{\Sigma}_E)$ 

n

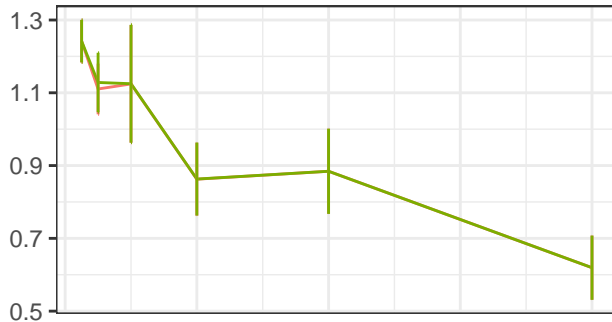
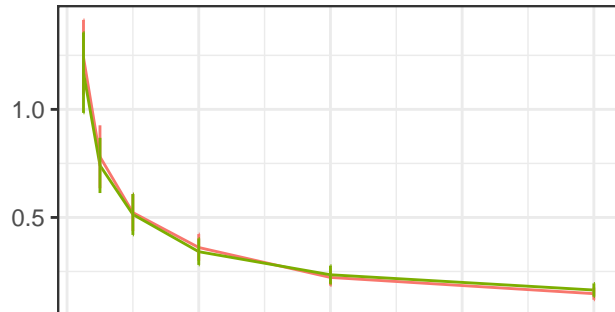
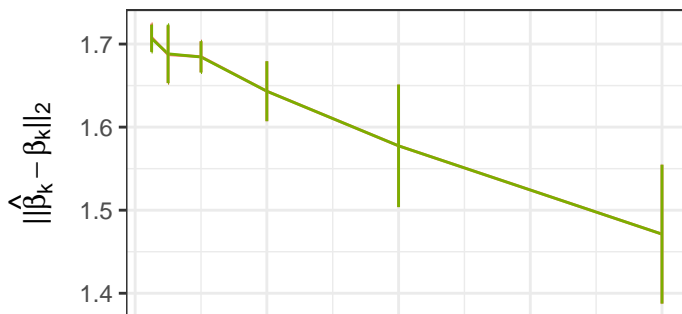
— Multivariate - - - Univariate Method — HE — REHE — REML — GEMMA

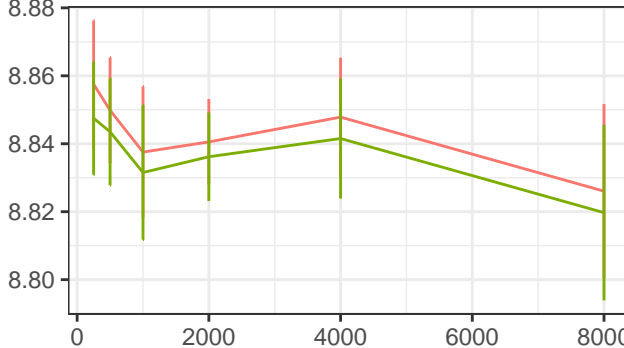
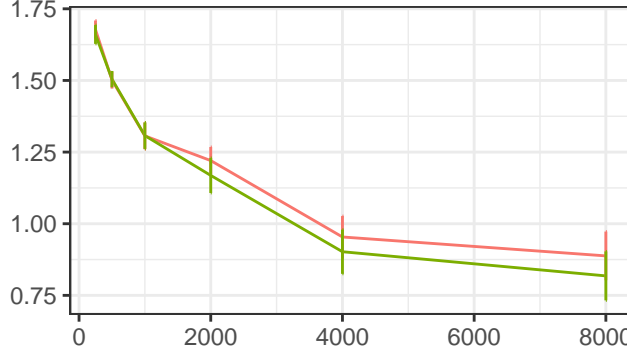
$q = 5 (\hat{\Sigma}_G)$  $q = 5 (\hat{\Sigma}_E)$  $q = 10 (\hat{\Sigma}_G)$  $q = 10 (\hat{\Sigma}_E)$  $q = 20 (\hat{\Sigma}_G)$  $q = 20 (\hat{\Sigma}_E)$  n

Method mvHE mvREHE mvREML GEMMA

$q = 5 (\hat{\Sigma}_G)$  $q = 5 (\hat{\Sigma}_E)$  $q = 10 (\hat{\Sigma}_G)$  $q = 10 (\hat{\Sigma}_E)$  $q = 20 (\hat{\Sigma}_G)$  $q = 20 (\hat{\Sigma}_E)$  n

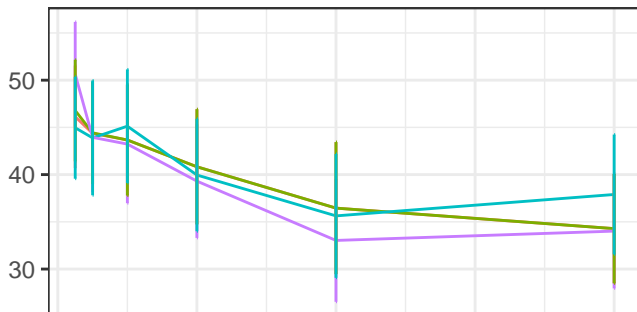
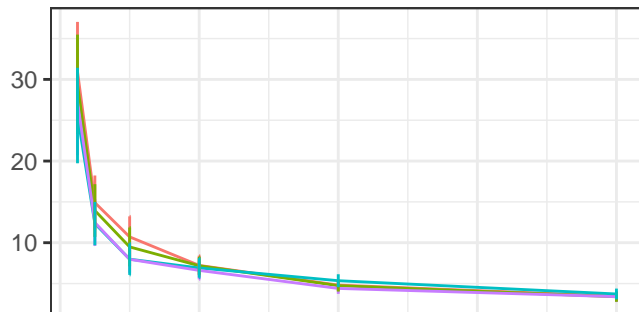
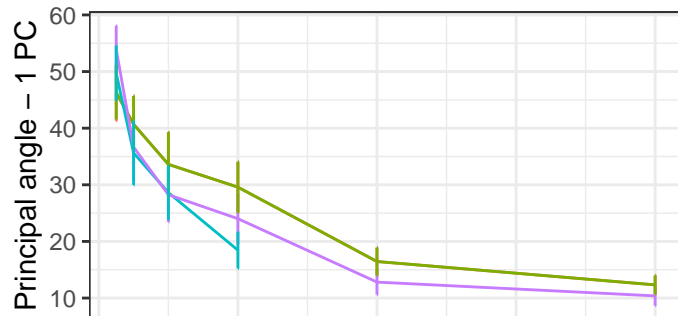
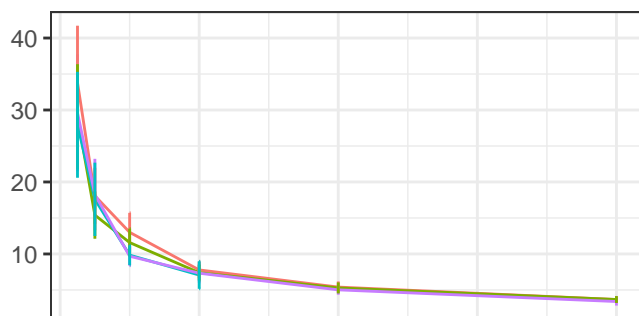
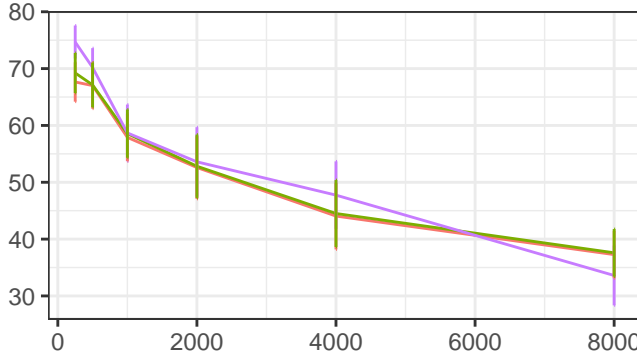
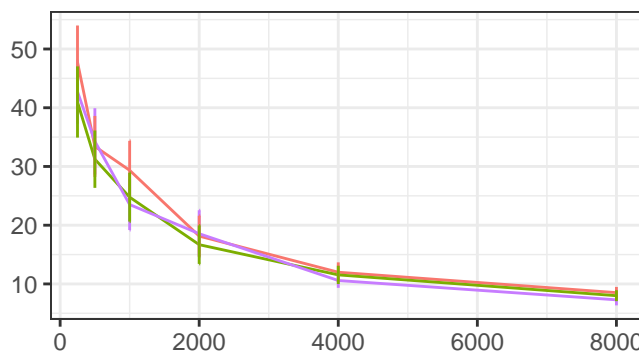
Method mvHE mvREHE mvREML GEMMA

$q = 5 (\hat{\Sigma}_G)$

 $q = 5 (\hat{\Sigma}_E)$

 $q = 10 (\hat{\Sigma}_G)$

 $q = 10 (\hat{\Sigma}_E)$

 $q = 20 (\hat{\Sigma}_G)$

 $q = 20 (\hat{\Sigma}_E)$


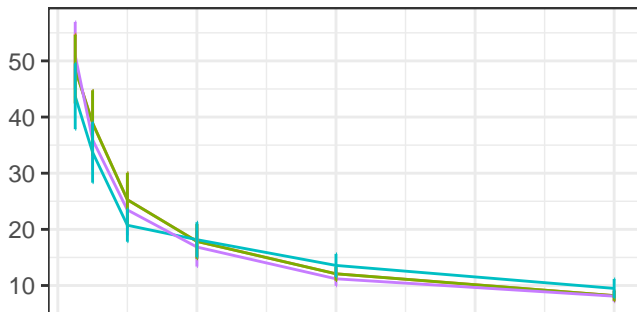
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Method — mvHE — mvREHE — mvREML — GEMMA

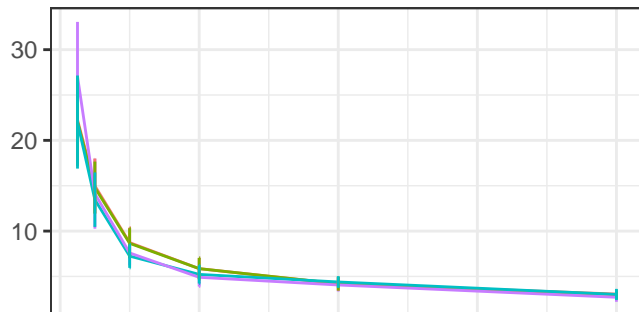
$q = 5 (\hat{\Sigma}_G)$  $q = 5 (\hat{\Sigma}_E)$  $q = 10 (\hat{\Sigma}_G)$  $q = 10 (\hat{\Sigma}_E)$  $q = 20 (\hat{\Sigma}_G)$  $q = 20 (\hat{\Sigma}_E)$ 

Method mvHE mvREHE mvREML GEMMA

$q = 5 (\hat{\Sigma}_G)$



$q = 5 (\hat{\Sigma}_E)$

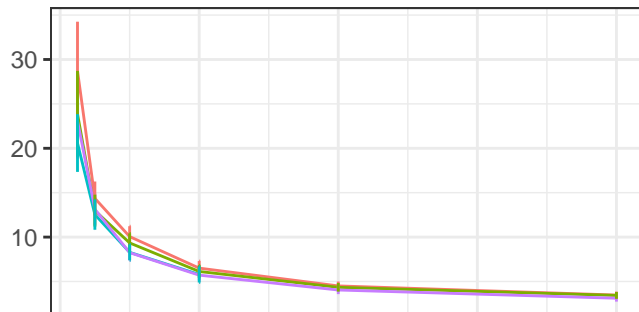


$q = 10 (\hat{\Sigma}_G)$

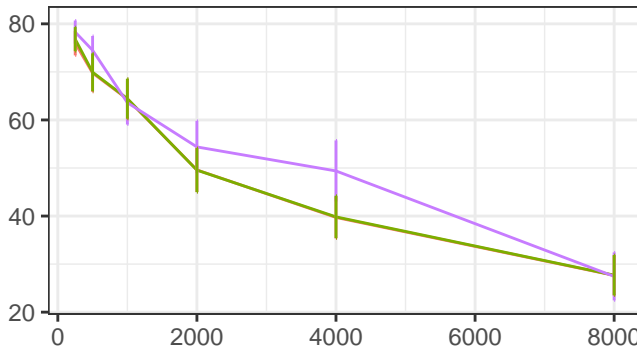
Max principal angle - 3 PCs



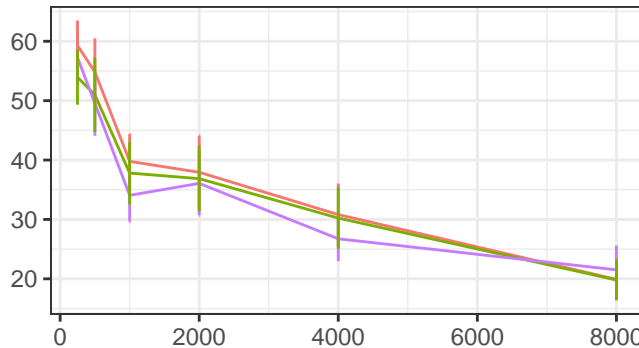
$q = 10 (\hat{\Sigma}_E)$



$q = 20 (\hat{\Sigma}_G)$

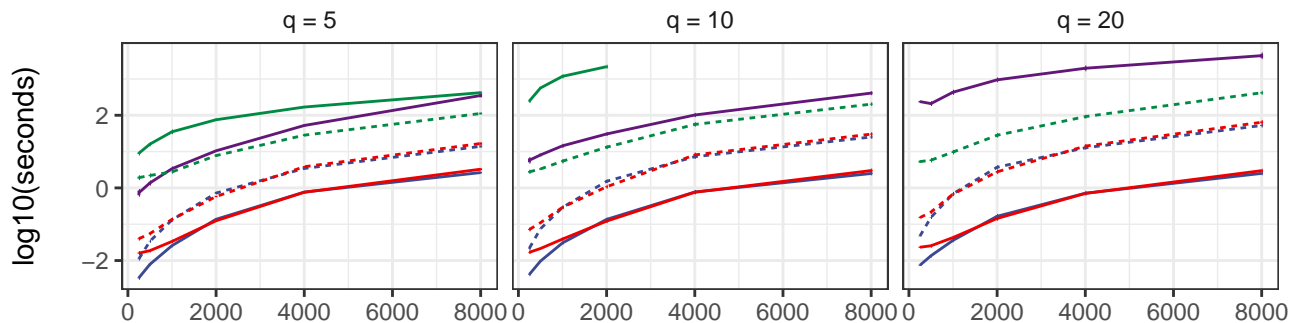


$q = 20 (\hat{\Sigma}_E)$

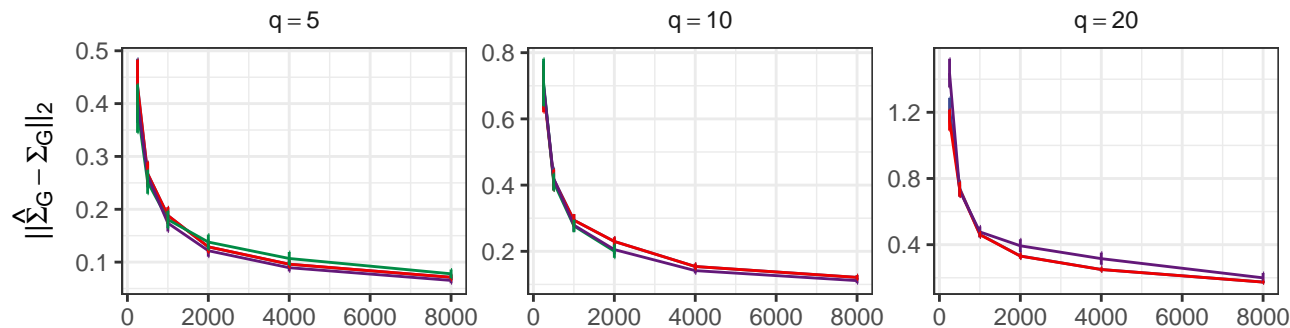


Method mvHE mvREHE mvREML GEMMA

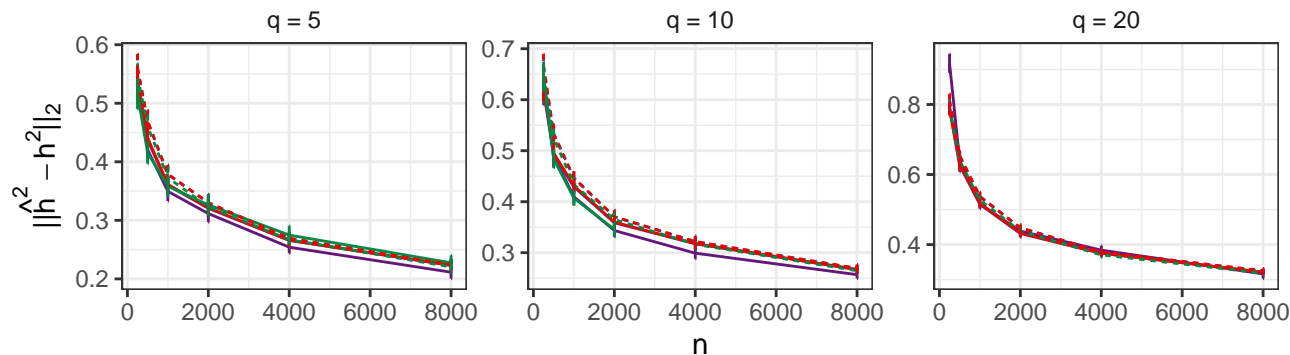
a



b



c



— Multivariate - - - - Univariate

Method — HE — REHE — REML — GEMMA