```r
## Load libraries
library(splines)
library(MASS)
library(qvalue)

##source functions
source("../functions.R")


folder <- "global_null"

load(paste(folder,"simResults_0.RData",sep="/"))
load(paste(folder,"simResults_pi0x_thresh_0.RData",sep="/"))
load(paste(folder,"simResults_pi0x_Scott_emp_0.RData",sep="/"))
load(paste(folder,"simResults_pi0x_Scott_0.RData",sep="/"))

pi0StoreyMean <- mean(apply(pValuesSims, 1, function(p){qvalue(p)$pi0}))

mean(pi0MeansVars$pi0hatMeanFinal)

## [1] 0.9417961

pi0StoreyMean

## [1] 0.9623823

plotMeanPi0(pi0, pi0MeansVars, pi0hatScottMean, pi0StoreyMean, tme=tme, main="Global null",
            ylim=c(0.3,1))
legend("topright", inset=c(-0.45,0),##x=-0.2, y=0.45,##"bottomright", ##x=-100, y=0.3,
       legend=c("Truth",
                "BL (Linear)",
                "Scott T (Linear)",
                "Storey"),
       col=c("black",
             "orange",
             "blue",
             "brown"),
       bty="n",
       lwd=c(3,3,3,3), lty=c(1,1,1,1),
       cex=1.2, x.intersp=0.2, y.intersp=1.0)
```
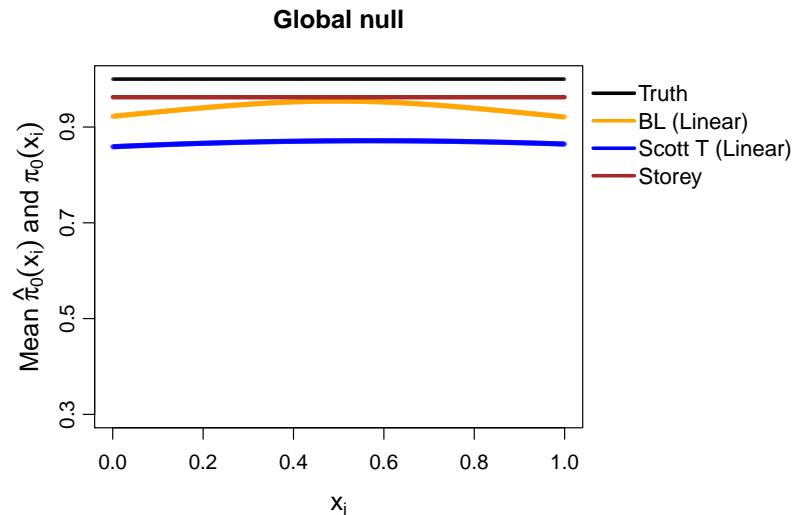
Global null

Session info:

```
devtools::session_info()

## Session info ------------------------------------------------

##   setting  value
##   version  R version 3.3.1 (2016-06-21)
##   system   x86_64, mingw32
##   ui       RTerm
##   language (EN)
##   collate  English_United States.1252
##   tz       America/New_York
##   date     2018-10-04

## Packages ----------------------------------------------------

##   package    * version date       source
##   colorspace   1.2-6   2015-03-11 CRAN (R 3.3.1)
##   devtools     1.12.0  2016-06-24 CRAN (R 3.3.3)
##   digest       0.6.12  2017-01-27 CRAN (R 3.3.3)
##   evaluate     0.10    2016-10-11 CRAN (R 3.3.1)
##   ggplot2      2.2.1   2016-12-30 CRAN (R 3.3.3)
##   gtable       0.2.0   2016-02-26 CRAN (R 3.3.1)
##   highr        0.6     2016-05-09 CRAN (R 3.3.1)
##   knitr      * 1.17    2017-08-10 CRAN (R 3.3.3)
##   lazyeval     0.2.0   2016-06-12 CRAN (R 3.3.1)
##   magrittr     1.5     2014-11-22 CRAN (R 3.3.1)
##   MASS       * 7.3-45  2016-04-21 CRAN (R 3.3.1)
```

```
## memoise    1.0.0  2016-01-29 CRAN (R 3.3.1)
## munsell    0.4.3  2016-02-13 CRAN (R 3.3.1)
## plyr       1.8.4  2016-06-08 CRAN (R 3.3.1)
## qvalue   * 2.4.2  2016-05-16 Bioconductor
## Rcpp       0.12.13 2017-09-28 CRAN (R 3.3.3)
## reshape2   1.4.1  2014-12-06 CRAN (R 3.3.1)
## rlang      0.1.4  2017-11-05 CRAN (R 3.3.3)
## scales     0.4.1  2016-11-09 CRAN (R 3.3.3)
## stringi    1.1.1  2016-05-27 CRAN (R 3.3.0)
## stringr    1.2.0  2017-02-18 CRAN (R 3.3.3)
## tibble     1.3.3  2017-05-28 CRAN (R 3.3.3)
## withr      1.0.2  2016-06-20 CRAN (R 3.3.1)
```