

# Best-Mod6-Plot2

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## Demonstration of a panel plot with regressions within.

### Separate plot for each subgroup

```
library(lattice)

## Warning: package 'lattice' was built under R version 3.3.3

library(car)

## Warning: package 'car' was built under R version 3.3.3

str(Salaries)

## 'data.frame':  397 obs. of  6 variables:
## $ rank      : Factor w/ 3 levels "AsstProf","AssocProf",...: 3 3 1 3 3 2 3 3 3 3 ...
## $ discipline : Factor w/ 2 levels "A","B": 2 2 2 2 2 2 2 2 2 2 ...
## $ yrs.since.phd: int  19 20 4 45 40 6 30 45 21 18 ...
## $ yrs.service : int  18 16 3 39 41 6 23 45 20 18 ...
## $ sex        : Factor w/ 2 levels "Female","Male": 2 2 2 2 2 2 2 2 2 1 ...
## $ salary     : int 139750 173200 79750 115000 141500 97000 175000 147765 119250 129000 ...

names(Salaries)

## [1] "rank"          "discipline"    "yrs.since.phd" "yrs.service"
## [5] "sex"           "salary"

levels(Salaries$discipline)

## [1] "A" "B"

levels(Salaries$rank)

## [1] "AsstProf" "AssocProf" "Prof"

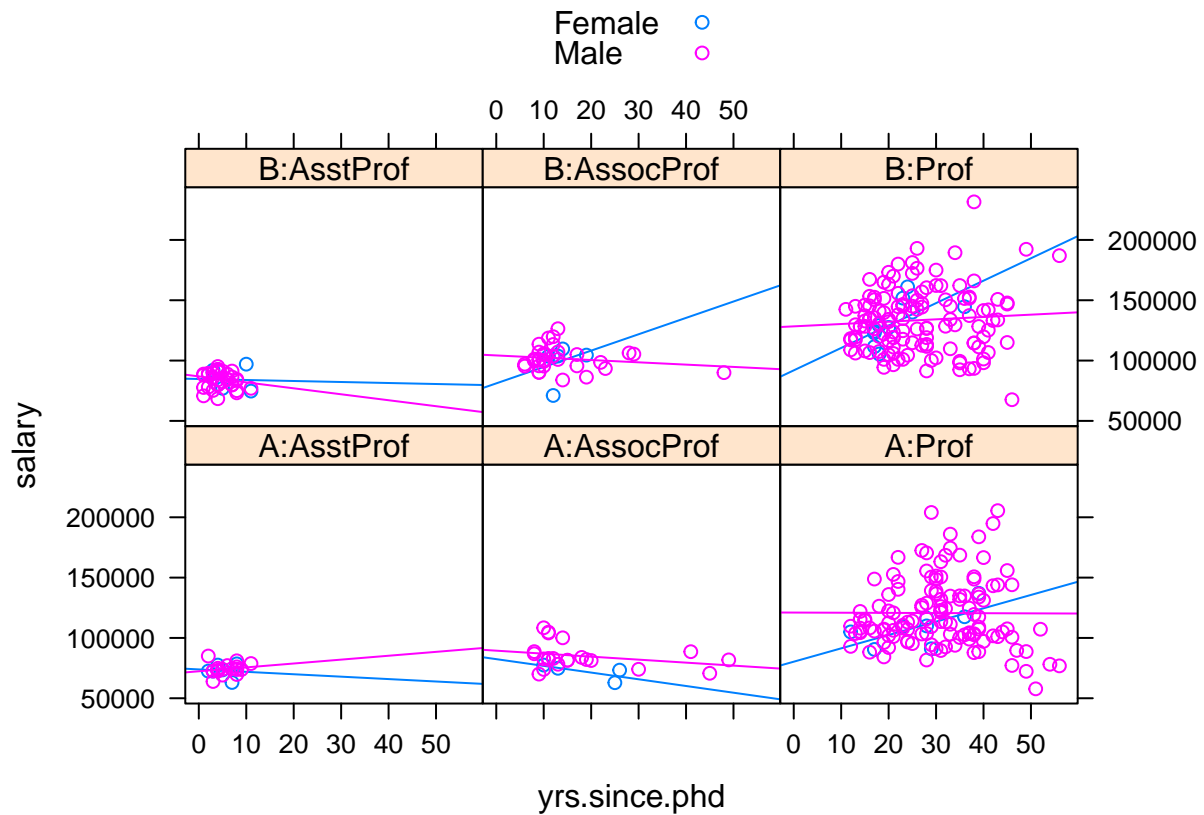
levels(Salaries$sex)

## [1] "Female" "Male"

table(Salaries$sex)

##
## Female  Male
##      39   358

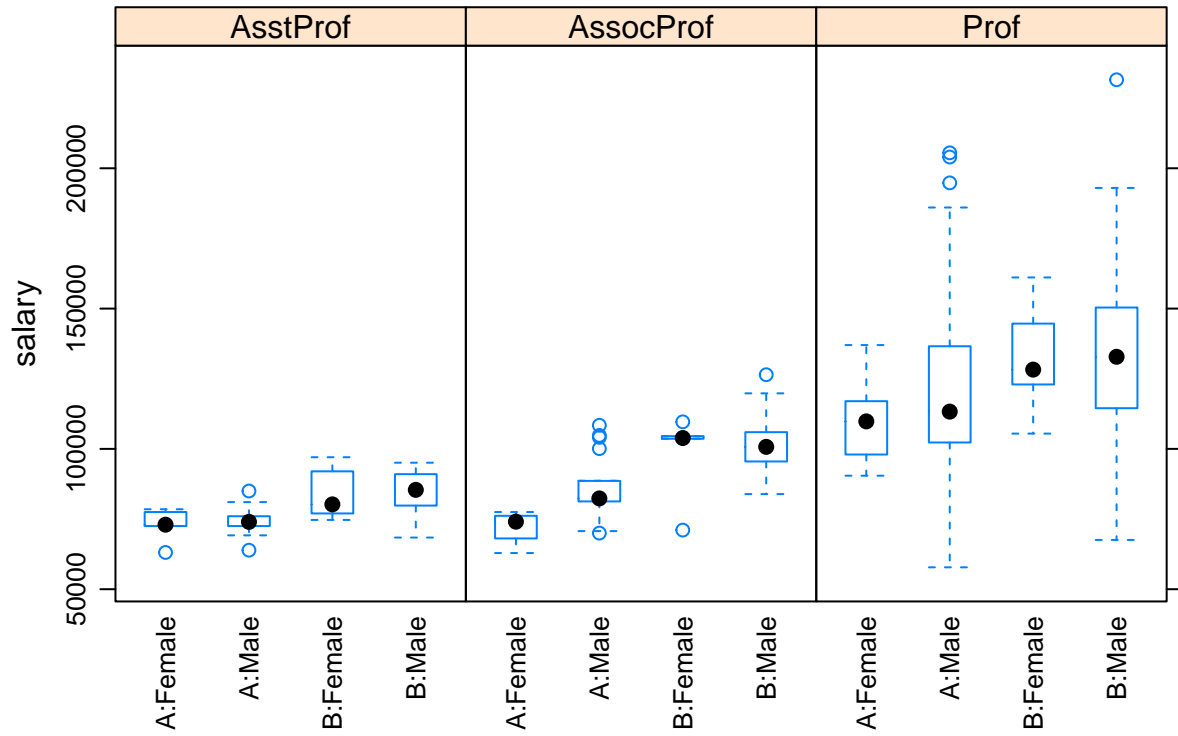
xyplot(salary~yrs.since.phd | discipline:rank,
       groups=sex, data=Salaries,
       type=c("c","p","r"), auto.key=TRUE)
```



## Explanation of parts of the above code:

- salary is the vertical axis
- yrs.since.pdh is the horizontal axis
- to the right of vertical line is read as given (in this case the discipline and rank)
- as the factorial combination of discipline and rank
- lastly the groups puts the data into another split by sex
- type = g gives the grid
- type = p gives points
- type = r gives the regression points

```
bwplot(salary~discipline:sex | rank,
       data=Salaries, scales=list(rot=90),
       layout=c(3,1))
```



### Explanation of parts of the above code:

- salary is the vertical axis
- years.since.phd didn't show much in the first plot
- discipline and sex is the horizontal axis
- scales rotates the labels by 90 degrees