

Exercise 1:

Use the data set `patent` from package `flexmix`.

- Estimate a suitable mixture of regressions model for the number of patents given the logarithmized R & D expenditures. Assume that the number of patents follow a Poisson distribution.
- Add the variable `RDS` as concomitant variable. Initialize the EM algorithm in the previously fitted model using `cluster = posterior(fitted.model)`.

Exercise 2:

Write your own model driver to fit finite mixtures of beta distributions.

Test the driver using artificial data.

- Use data from a single beta distribution and fit a mixture with one component to the data. Compare the results to those obtained using `fitdistr` from package `MASS`.
- Generate data from a mixture of two beta distributions and use the driver to fit different mixtures.