

Introduction to **actuar**

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1 Introduction

actuar (Dutang et al., 2008) provides additional actuarial science functionality and support for heavy tailed distributions to the R statistical system. The project was officially launched in 2005 and is under active development.

The current feature set of the package can be split into five main categories: additional probability distributions; loss distributions modeling; risk and ruin theory; simulation of compound hierarchical models; credibility theory.

Furthermore, starting with version 3.0-0, **actuar** gives easy access to many of its underlying C workhorses through an API.

As much as possible, the developers have tried to keep the “user interface” of the various functions of the package consistent. Moreover, the package follows the general R philosophy of working with model objects. This means that instead of merely returning, say, a vector of probabilities, many functions will return an object containing, among other things, the said probabilities. The object can then be manipulated at one’s will using various extraction, summary or plotting functions.

2 Documentation

In addition to the help pages, **actuar** ships with extensive vignettes and demonstration scripts; run the following commands at the R prompt to obtain the list of each.

```
> vignette(package = "actuar")  
> demo(package = "actuar")
```

3 Collaboration and citation

If you use R or **actuar** for actuarial analysis, please cite the software in publications. For information on how to cite the software, use:

```
> citation()  
> citation("actuar")
```

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References

C Dutang, V. Goulet, and M. Pigeon. **actuar**: An R package for actuarial science. *Journal of Statistical Software*, 25(7), 2008. URL <http://www.actuar-project.org>.