Symbolic Data Analysis: The Field

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T3: Symbolic Data Analysis:
Taking Variability in Data into Account
Outline

1. General Summary
2. Symbolic Data Analysis: the field
3. Software and References
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Concluding remarks

- From micro-data to macro-data:
- Interval, Distribution-valued data
- Take variability into account
- Several methodologies already developed that do take into account the variability of the data
- New problems / challenges for the 21\textsuperscript{st} century: intervals and distributions are not real numbers!
“Distributions are the numbers of the future”

(Schweizer, 1984)
Symbolic Data Analysis was introduced by Prof. Edwin Diday in the late eighties of the 20\textsuperscript{th} century, in a seminal paper:

“The symbolic approach in clustering and relating methods of data analysis: The basic choices.”

In these past (almost) 30 years, this research field has known a great development, with

- Three books published
- Many papers in journals and conference proceedings
- Three journal’s Special Issues
- Workshops, tutorials and special sessions at conferences all over the world
- Two European projects, gathering teams from several different countries
- A large number of PhD and Master thesis
Symbolic Data Analysis

Books:
Nowadays:

- Established Workshop series
  - Next: Orléans (France) Nov. 2015:
    http://www.univ-orleans.fr/MAPMO/colloques/sda2015/
- Increasing number of publications in a wide variety of journals
- Journals’ special issues
- Website (wiki):
  http://vladowiki.fmf.uni-lj.si/doku.php?id=sva
- Linkedin SDA Group: for discussions, announcements...

The SDA community is growing world-wide!
Available Software

- Syrokko: commercial software - http://syrokko.com/
- R packages available in CRAN (increasing...), so far mainly for interval data:
  RSDA ; iRegression, MAINT.Data
Books and Main Papers


