Numerical integration

Calculation of definite integrals implies to replace the function by another one (usually a polynomial form) which is a good approximation and easier to compute. Error estimation depends on parameters of the method and refinement of spatial grid discretization. It is interesting to check these errors using various algorithm and mesh resolution.

- Equally spaced methods :
  - Numerical_integration
  - Trapezoidal_rule
  - Newton–Cotes_formulas
  - Simpson's rule and composite Simpson's rule
- If intervals between interpolation points vary :
  - Gaussian_quadrature

Références

- Numerical recipes, The Art of Scientific Computing 3rd Edition, William H. Press, Saul A. Teukolsky, William T. Vetterling, Brian P. Flannery, 2007, isbn: 9780521880688
  - http://numerical.recipes/
  - http://www2.units.it/ipl/students_area/imm2/files/Numerical_Recipes.pdf, p 129...
  - http://apps.nrbook.com/empanel/index.html#