LDA Benchmark Generator IIIa

addendum to LDA Benchmark Generator III manual

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The benchmark generator program `bm3a` is a revised version of the benchmark generator `bm3`. The following modifications have been made.

- The variance of velocity fluctuations has been changed from $1\,\mathrm{ms}^{-1}$ to $2\,\mathrm{ms}^{-1}$. This allows to verify the values of correlation functions and correlation coefficient functions.

- The velocity mean (only for bias simulation) has been changed from $2\,\mathrm{ms}^{-1}$ to $2\sqrt{2}\,\mathrm{ms}^{-1}$. This keeps the turbulence intensity of $50\,\%$.

- The processor delay time has been changed from $1\,\mathrm{ms}$ to $0.1\,\mathrm{ms}$, which yields more realistic data series.

- The simulation routine of the processor delay has been modified. The new algorithm better represents the physics of this phenomenon.