MinT – The (t, m, s)-Net Database

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(t, m, s)-nets and (t, s)-sequences are well known low-discrepancy point sets. They are used for solving high-dimensional integration problems in fields like mathematical finance. A problem for the practitioner is that a huge variety of different constructions is known today (see [1] for a recent survey). Thus it has become an increasingly difficult task to determine the best known net with certain parameters.

As a possible solution we present the web-based database system MINT for querying bounds on (t, m, s)-net and (t, s)-sequence parameters. This new system has been available since September 2004 at the address

`http://mint.sbg.ac.at/`

and provides a number of hitherto unavailable services.

After a short introduction to the theory of (t, m, s)-nets we give examples of the usage of MINT and demonstrate its unique features. Finally, we give an overview of the optimal construction methods determined by MINT for certain important parameter ranges.

[1] Harald Niederreiter: *Constructions of* (t, m, s)*-nets and* (t, s)*-sequences*, Finite Fields Appl., to appear.

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