Cloth Simulation in the SILC Matrix Computation Framework: A Case Study

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Abstract. This paper presents a case study of numerical simulations in an easy-to-use matrix computation framework named Simple Interface for Library Collections (SILC), which allows users to use matrix computation libraries in an environment- and language-independent manner. As a practical example of numerical simulations in SILC, we selected cloth simulation based on a mass-spring model and the implicit backward Euler method. We constructed two SILC-based versions of an existing cloth simulation code according to two proposed application styles of SILC. Experimental results showed that both versions achieved some performance gains, thereby demonstrating the feasibility of numerical simulations in SILC and the usability of the proposed application styles.