

Accelerating methods of the fabric products assembly

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Abstract: Using of the parallel processing methods during the simulation of the fabric material products on the solid plane-bounded object's surface to accelerate the simulation process is considered in the paper. The algorithms for paralleling the calculations on the central processing unit and on the graphics processor of the video display adapter are presented.

Keywords: the parallel processing methods, simulation of the fabric materials, particle method, leapfrog scheme.

REFERENCES

- [1] Hockney W., Eastwood J., Computer Simulation Using Particles. McGraw-Hill, New York, 1981.
- [2] Breen D., House D. A physically based model of woven cloth. The Visual Computer, 8(5-6):264–277, June 1992.
- [3] Kawabata S. The standardisation and analysis of hand evaluation. Technical report, The textile machinery society of Japan, Osaka, July 1980.
- [4] Landovsky V.V., Frolovsky V.D. Issledovanie metodov integrirovaniya differencial'nyh uravnenij v zadache modelirovaniya povedenija tkani na osnove metoda chastic [Investigation of the techniques of the difference equation integration in the problem of the simulation of the fabric materials behavior by particle method]. Sibirskij zhurnal vychislitel'noj matematiki. - Siberian Journal of Numerical Mathematics. 2006. vol. 9. pp. 287-298.
- [5] Hughes C., Hughes T. Parallel'noe i raspredelennoe programmirovaniye na C++: Per. s angl. [Parallel and distributed programming using C++] – M.: Izdatel'skij dom «Vilyams», 2004. – 672 p.
- [6] Sanders J., Kandrot E. Tekhnologiya CUDA v primerakh: vvedenie v programmirovaniye graficheskikh protsessorov: Per. s angl. [CUDA by example. An introduction to general-purpose GPU programming] – M.: DMK Press, 2011. – 232 p.



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