MODELING THE SEPARATION PROCESS WITH THE HELP OF CELLULAR AUTOMATES

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The practical application in which the cellular automates will be used is represented by the peas, pods and other impurities' separating process. The way the peas react to the sloping strip has been studied with the simulation programs.

So as to verify if the program is correctly running, it is necessary to trace the curve K_{ns} according to the number of simulation cycles. This curve should converge towards a certain value as the number of simulations increases. The convergence of the algorithm is presented in the diagram in Figure 3 for the values mentioned above (*no_osc* and *desn1*).[2]

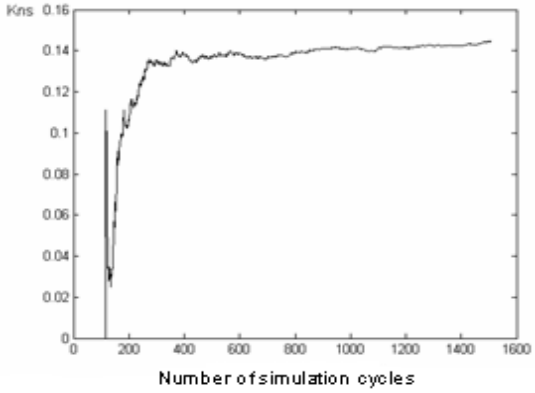

Fig. 3 . Number of simulation cycles according to the number of simulation cycles

BIBLIOGRAPHY

[1] Abrudan, G.,- Contribuţii teoretice şi experimentale privind aplicarea şocurilor în procesul de lucru al separatorului cu bandă, Teză de doctotat, Universitatea "Politehnica" Timişoara, 2007.
[2] Abrudan, G.,- Dinamica separatorului cu bandă oscilantă, Editura Politehnica Timişoara, 2007.
[3] Alonso-Sanz R., A structurally dynamic cellular automaton with memory, Chaos, Solutions & Fractals, Volume 32, Issue 4, May 2007, Pages 1285-1295;
[4] Brady M., R., Raghavan, J., Slawny, Probabilistic Cellular Automata in Pattern Recognition. Proc. Inter. Conf. Neural Networks. Washington DC, USA, 1989
[5] Kozicki., J., Tejchman, Application of a cellular automata to simulations of Granular flow in silos, Granular Matter, Springer Berlin / Heidelberg, ISSN 1434-5021, Volume 7, Number 1 / April, 2005
[6] Ktitarev, D., E. Wolf, Stratification of Granular matter in a rotating drum: cellular automata modeling, Granular Matter, Springer Berlin / Heidelberg, ISSN 1434-5021 , 2004;