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MATRIXx-based simulation model base for continuous cold rolling process

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Abstract

An attempt has been made to develop a simulation model base for cold continuous rolling process so as to meet the requirements for investigating the controlling parameters in different models. Then the architecture and data structure of the simulation model base are worked out, including the object-oriented hierarchical/modular software system, and the simulation model base is thus formed and implemented by using the MATRIXx simulation platform and the reusable software for I/O dynamic linkage. To simplify the data processing during the simulative computation, the ODBC (open database connectivity) interface is programmed between the model base and database. With industrial data acquired, an analysis is made to some key problems in relation to models by applying the model base in rolling process, and the results reveal the practicality and advantages of the simulation model base as a model research and development platform.

Author Keywords

Continuous cold rolling; Database; MATRIXx; Open

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database connectivity; Simulation model base

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1. Liu, X., Hao, L., Xu, X., Wu, S.
Simulation support system and modelbase technology in cold rolling process control system
(2004) *Proceedings of the World Congress on Intelligent Control and Automation (WCICA)*, 4, pp. 3265-3268.
[Abstract + Refs](#) 
2. Kofman, E.
Second-order approximation for DEVS simulation of continuous systems
(2002) *Simulation*, 78 (2), pp. 76-89. [Cited 10 times](#).
doi: 10.1177/0037549702078002206
[Abstract + Refs](#) [View at Publisher](#) 
3. Ameghino, J., Glinsky, E., Wainer, G.
Applying cell-DEVS in models of complex systems
(2003)
<http://www.sce.carleton.ca/faculty/wainer/papers/SCSC03CellDEVS.pdf>

4. Liu, X.-G., Yuan, F.-H., Xu, X.-H., Hao, L.-N., Xue, D.-Y.
Design and development of reusable dynamic simulation ModelBase based on MATLAB
(2004) *Xitong Fangzhen Xuebao / Journal of System Simulation*, 16 (7), p. 1450.
[Abstract + Refs](#) 
5. Hooper, J.W., Chester, R.O.
(1991) *Software Reuse: Guidelines and Methods*. [Cited 25 times](#).
New York: Plenum Press

6. Hu, J., Wang, Y., Wang, T., Cai, J.
Research on modeling and reusing of computer numerical control software with object-oriented technology
(2001) *Journal of Dong Hua University (English Edition)*, 18 (3), pp. 66-69.
[Abstract + Refs](#) 
7. Castano, S., De Antonellis, V.
Engineering a library of reusable conceptual components
(1997) *Information and Software Technology*, 39 (2), pp. 65-76. [Cited 4 times](#).
[Abstract + Refs](#) [View at Publisher](#) 

8. Liu, X.-G., Yuan, F.-H., Xu, X.-H.
Simulation supporting system of cold rolling process control system based on modelbase
(2003) *Dongbei Daxue Xuebao/Journal of Northeastern University*, 24 (7), pp. 639-642. [Cited 2 times](#).

[Abstract + Refs](#)



9. Corazao, M.R., Khalaf, M.A., Guerra, L.M., Potkonjak, M., Rabaey, J.M.
Performance optimization using template mapping for datapath-intensive high-level synthesis
(1996) *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, 15 (8), pp. 877-888. [Cited 30 times](#).

[Abstract + Refs](#)

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10. Venkata Reddy, N., Suryanarayana, G.
A set-up model for tandem cold rolling mills
(2001) *Journal of Materials Processing Technology*, 116 (2-3), pp. 269-277. [Cited 7 times](#).
doi: 10.1016/S0924-0136(01)01007-X

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[View at Publisher](#)



11. Liu, X.-G.
Research and application of simulation modeling and model base for cold continuous rolling system
(2004)
Shenyang: Northeastern University



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