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Development of control systems of sintering processes in rotary tubular kilns on base 2D-modelling with using thermistor's scanning

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The article considers the role of the lining in the tubular rotary kilns used for heat treatment processes of raw material in the metallurgical, chemical and other fields of industries. The method of selecting a new design thermal insulation element, ensuring reduction of heat loss to the environment and more accurately to provide the required thermal processing mode through simulation in ANSYS Fluent software package has been developed. A system of monitoring the state of the lining with a thermal imager and control system that provides consistency lining without stopping the operating kiln has been developed.

Biography

I V Sharikov graduated from the Technological University, St.-Petersburg, in 1958. Diploma qualification is "chemical engineer-technologist". In 1961 he entered a post-graduate course in the same Technological University, department of Physical Chemistry. In 1965 he presented a dissertation work and got Ph.D (physical chemistry), chemical kinetics and mass transfer phenomena. From 1965 to 1979 he was Head of Laboratory of mathematical modelling and optimisation of chemical and technological processes (Research Institute of Synthetic Resins, Vladimir, VNISS). In 1973 he presented and defended a dissertation work for Doct. Sci. – "Mathematical modelling of cellulose esters production process". In 1976 he got a Professor diploma for the speciality "Processes and Apparatuses in Chemical Technology". In 1979 he became Head of the Department for engineering judgement of chemical processes (Russian Scientific Centre "Applied Chemistry", RSC AC, or GIPH). 1985-1999 - Deputy General Director for scientific work in RSC AC. 1999-2007 - Principal Research Scientist, leader of several works on developing new chemical processes and their engineering aspects. Totally 182 articles were published in Russian and foreign scientific journals. I.V. Sharikov is a member of the working group on Loss Prevention in industry in the European Society of Chemical Engineers. From 2004 and up to the moment I.V. Sharikov is professor of Saint Petersburg Mining University, Department of Technological Processes Automation. His area of interest is mainly the problem of optimal control and modeling for high temperature metallurgical and petrochemical processes. He is fluent in English and German.

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