

The principles of mathematical models development and simulation of actuators and mechatronic systems

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Results.

A new ultrasonic cavitation technology for plant material pectin hydrolysis-extraction was developed. Experimental studies for determine the main parameters of ultrasonic vibrations to provide effective realization of the process as a part of mechatronic systems. Physical and mathematical models of extraction were compiled. Necessary technological cavitation equipment as a part of mechatronic systems to realize the proposed technology was developed. Experimentally confirmed the high quality of pectin obtained with new technology. The proposed technology is environmental friendly, and allows the continued use of waste materials