MODELLING OF CIRCULATORY CONTROL SYSTEM

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In the known models of the cardiovascular control system, either pulsatile circulatory waves or very slow effects are modelled, but the third-order, mostly stochastic waves are not considered. The dynamic properties

of the models are rarely determined by exact identification procedures. The existence of a "pressorstat" set-point control has not been proved until now.

The paper deals with the results of active and passive experimental identification based upon the first-and third-order blood pressure waves measured at different arterial mean pressure levels. Relationship between the low frequency parameter changes of pulsatile components and the third-order blood pressure waves are demonstrated . A dynamic model eliminating the set-point control problem and representing the short term effects is presented for the arterial blood pressure control system.