SINGLE-NODE MODEL OF THE CONVEYOR LINE WITH A CONSTANT SPEED MOVEMENT OF SUBJECTS OF LABOR

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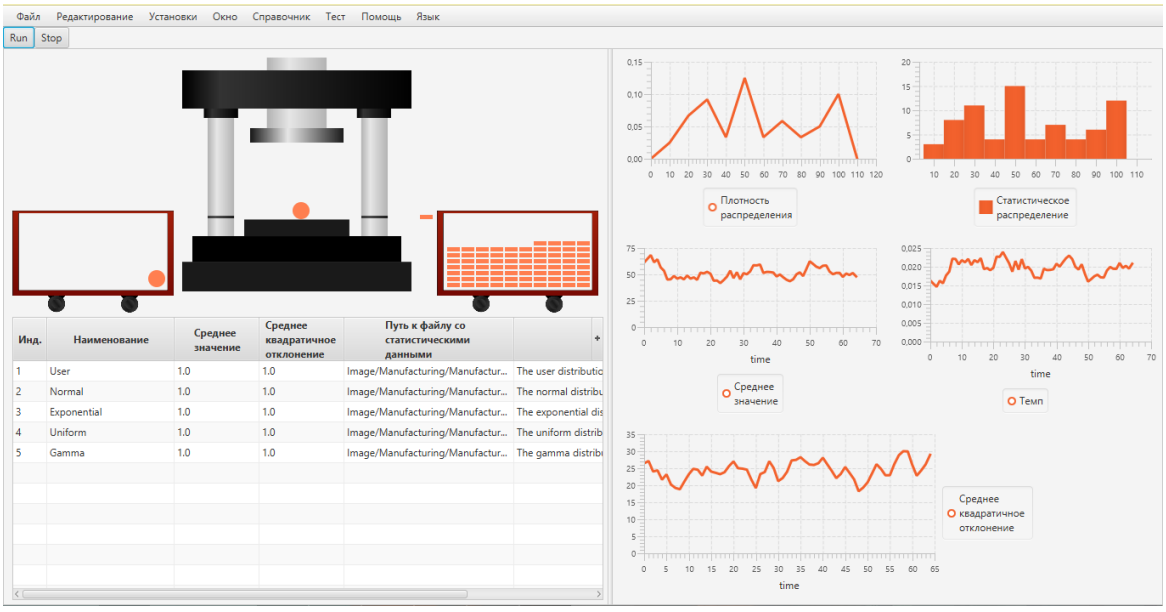
Behaviour of the line parameters largely determined by the fact of interaction between the subjects of labour during processing [1,2,3]. Technological cooperation appears in the presence of technological constraints, which define the sequence of process steps and the order of movement of the subjects of labour on technological route (fig). The system of equations that determines the behavior of the production line parameters in the single-step description has the following form [1]

$$\frac{\partial[\chi]_0(t,S)}{\partial t}+\frac{\partial[\chi]_1(t,S)}{\partial S}=0,$$
$$[\chi]_1(t,S)=[\chi]_{1\psi}(t,S),$$

Where $[\chi]_0(t,S)$ – the density distribution of the subjects of labour in work in progress on the technological positions; $[\chi]_1(t,S)$ – temp of processing of the subjects of labour on technological positions at the time t. The position of subject of labour on the technological route is characterized by the coordinate $S\in[0;S_d]$.



Инд.	Наименование	Среднее значение	Среднее квадратичное отклонение	Путь к файлу со статистическими данными	
1	User	1.0	1.0	Image/Manufacturing/Manufactur...	The user distributic
2	Normal	1.0	1.0	Image/Manufacturing/Manufactur...	The normal distribu
3	Exponential	1.0	1.0	Image/Manufacturing/Manufactur...	The exponential dis
4	Uniform	1.0	1.0	Image/Manufacturing/Manufactur...	The uniform distrib
5	Gamma	1.0	1.0	Image/Manufacturing/Manufactur...	The gamma distrib

Fig. Simulation of the behavior of equipment and analysis of line parameters

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