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«INFLUENCE OF DYNAMIC CHARACTERISTICS OF A 3D PRINTER ON THE ACCURACY OF PRINTING CONSTRUCTION PRODUCTS»

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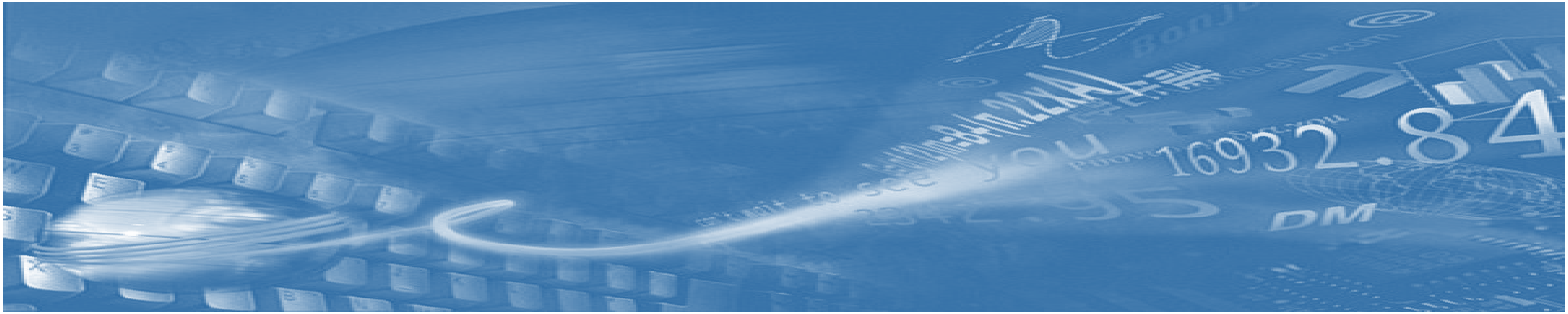
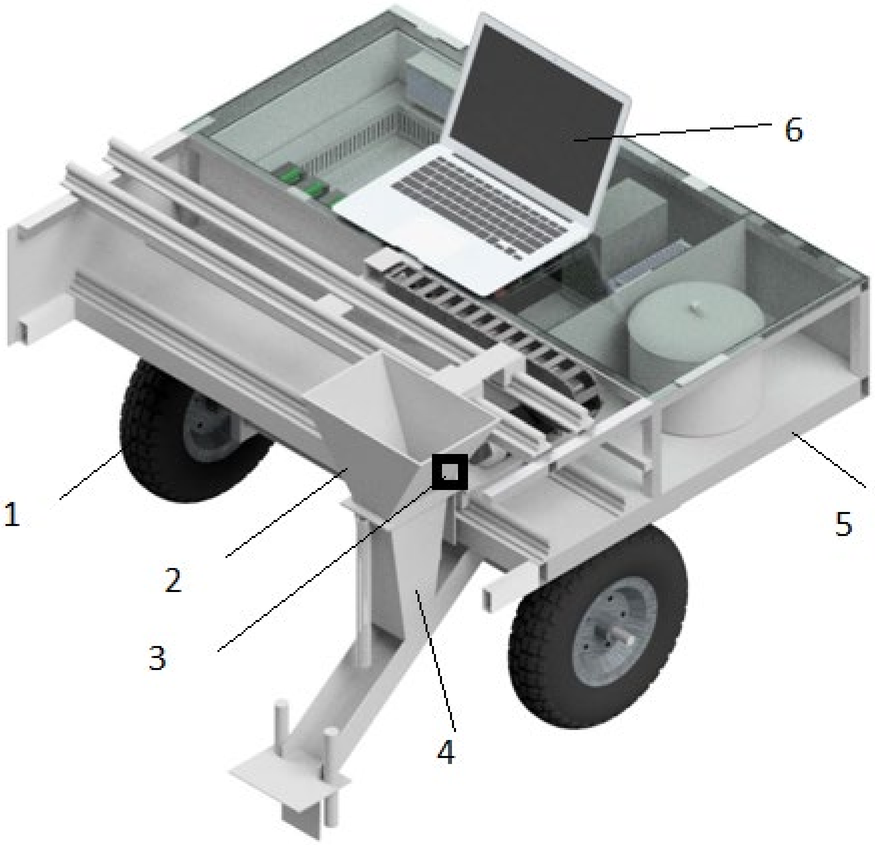
Problem statement

One of the most relevant methods in construction is the use of additive technologies based on 3D printing. When working with a construction 3D printer, dynamic loads occur that reduce the accuracy of printing. Therefore, it is necessary to study the effect of vibration loads and the working mixture used on the printing accuracy of a construction 3D printer.



Solution methods

Manipulator-type construction 3D printer

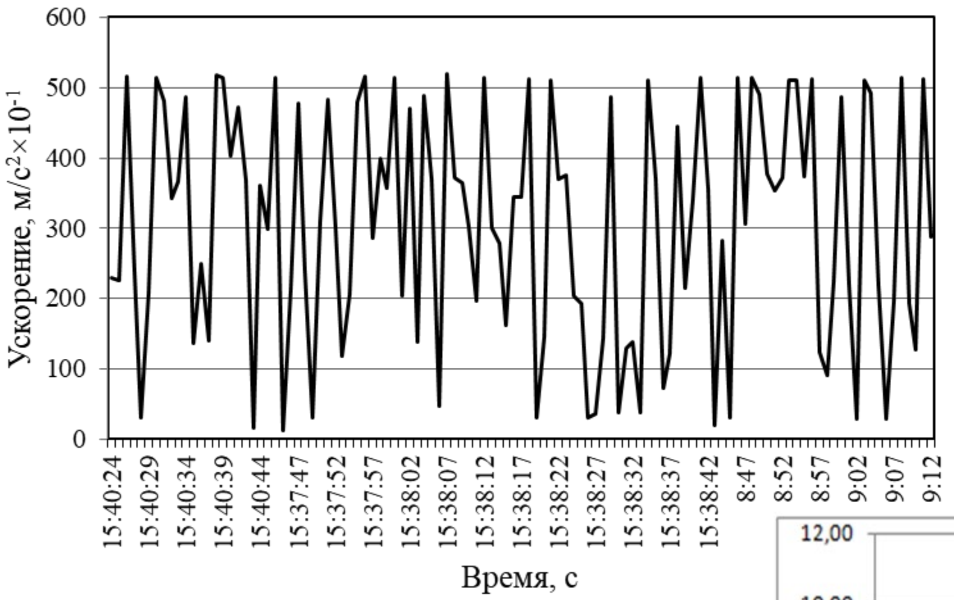


- Parameters:
- Frequency and amplitude of vibrations of the hopper walls, Hz;
- Density of glass fiber concrete mix, kg / m^3;
- Weight of glass fiber concrete mix components, kg;
- Compressive strength, MPa.

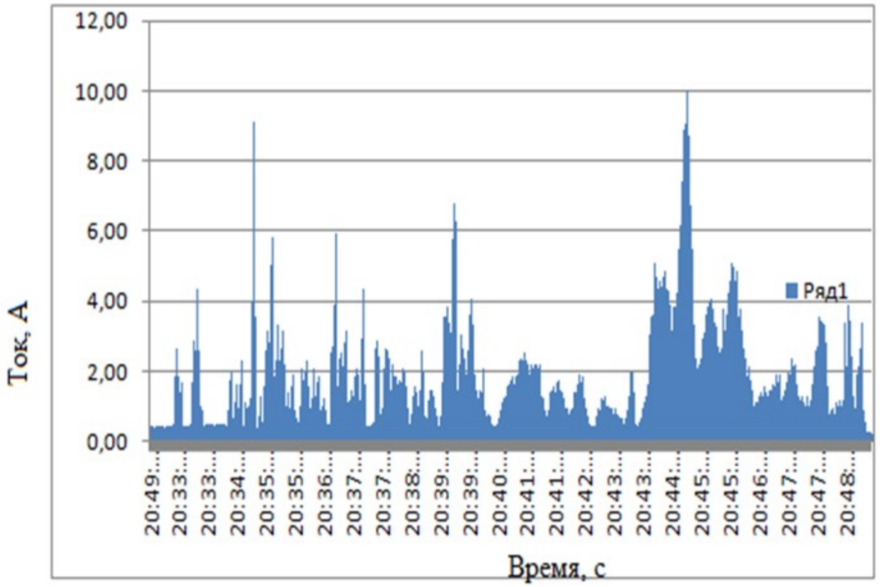
Conclusions

Results, implementation

Time dependence of vibration acceleration of a construction 3D printer cart



Time dependence of the current change in the stepper motor of the construction 3D printer drive



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