convective heat exchange, cavitation, spraying processes. The intensity of these processes in the tracts varies within very wide limits. As the fuel component with a polymer additive moves from the engine inlet to the combustion chamber mixing head due to hydrodynamic and thermal effects, specific properties of diluted polymer solutions, including the above-mentioned properties, are degraded, which can negatively affect the operation of the LPE.

Thus, as before, the question of the effect of the polymer additive on the completeness of fuel combustion remains unsolved. Although this research on full-size LRDs does not require the manufacture of a new material part, it is a complex and costly process similar to fire tests of the engine. Therefore, it is expedient and less expensive to conduct a study of the effect of polymer additives to kerosene on the completeness of fuel combustion on a low-thrust nuclear power plant using a displacement fuel supply system.

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USING THE VITE TOOL FOR FAST AND PRODUCTIVE DEVELOPMENT OF WEB APPLICATIONS BASED ON THE REACT LIBRARY

In today's world of rapidly developing information technology, web applications occupy a central place as a key tool for development and interaction in the digital environment. Their development is essential for providing access to information, facilitating effective communication, and creating opportunities for development in various spheres of life. With the spread of libraries and frameworks such as React, developers have access to powerful tools to create high-quality and functional web applications. However, the speed of development and efficient use of resources remain a challenge for many developers.

A special feature of the React library is the application creation from components that represent user interface elements with their own logic and design, with the possibility of their reuse. This approach allows the developer to focus more on the design of the web application. The existing "create-react-app" tool, which uses the Webpack bundler, automates and simplifies the process of creating and configuring a React project, but it turns out that it can be less flexible in solving complex scaling problems, in particular those related to route management, server-side rendering, using third-party libraries with npm, and more [1]. In these cases, the web application slows down and becomes inefficient, and therefore, using full-fledged React-powered frameworks or customizing your own build and bundling process may be more appropriate.

When applying of full-fledged frameworks creates certain limitations, it is recommended to use a module bundler, such as Vite or Parcel, to deploy a personalized customization in React. Vite is currently gaining popularity due to its very fast build speed, support for Hot Module Replacement (HMR), SSR (Server-Side Rendering), and extensible plugin architecture that allows developers to extend and modify functionality [2]. The high speed of project build is ensured by compiling and maintaining the necessary dependencies through the esbuild tool. Unlike the alternative tool Webpack, which loads all the code when the server starts, Vite loads only the code needed for the selected page or component [3]. Vite uses on-demand compilation, compiling the code of each individual file only when it is needed. This saves reloading time and development speed, and therefore Vite has advantages over traditional make tools [4].

Vite offers an instant start of development thanks to its architecture that allows you to use ES Modules and HTTP/2 for fast code loading. Vite also offers a simple and straightforward configuration method that allows developers to customize quickly their project to meet their needs. Its extensive plugin compatibility makes it easy to integrate with various tools and technologies.

By creating a new React project using Vite, developers benefit from the speed and productivity of web application development. Vite can be useful not only for creating new projects, but also for improving the speed and performance of old ones.

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ADVANCES IN EFFECTIVE TENSION CONTROL AND OPTIMIZATION TECHNIQUES IN FILAMENT WINDING OF POLYMER COMPOSITE MATERIALS

Effective tension control in the process of filament winding of axisymmetric products made of polymer composite materials plays a key role in ensuring not only the quality but also the strength and stability properties of the final product. This process poses a complex engineering challenge, as it requires precise control of fiber tension during winding, taking into account various factors such as material type, winding speed, product geometry, and more.

An overview of existing methods for controlling fiber tension encompasses a wide range of approaches, from traditional mechanical systems with manual control to modern automated systems that utilize advanced technologies such as computer vision systems, tension sensors, and artificial intelligence algorithms for automatic regulation [1, p. 535].

The application of modern control technologies and algorithms opens up new possibilities for optimizing the filament winding process. For example, [2, p. 119] the use of machine learning systems allows for the adaptation of control parameters in real-time, considering the variable production conditions and properties of the materials used.

Optimization of fiber tension control methods involves searching for the most effective and accurate solutions that will ensure optimal preservation of fiber structural characteristics and minimize potential defects in the final product [3, p. 596].