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Web component of geometry construction for supercomputer modeling of flow around aircraft

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The needs of civil aviation and space research require a comprehensive study of the processes of flow around aircraft, including supersonic flow. In this area, along with empirical experimental studies, mathematical modeling methods are widely used. The classical structure of a computational experiment includes the stage of preparing the initial data, launching the computational application, and analyzing the results obtained. Often, such calculations require the use of supercomputer-level resources. Today, digital platforms are used to simplify the computational experiment. These systems allow performing the entire computational cycle through a unified graphical user interface available on the Internet. The general architecture and core of such a platform were developed by the group of authors earlier. The report proposes to consider one of the directions of the system development. It is related to the construction of the geometry of the streamlined object. The main feature in this case is the implementation of the interface component that allows the preparation of a 2D/3D computational domain and its marking using a web browser. The obtained geometric description allows us to conduct the computational experiment of supersonic flow around the composite object.

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