

Abstract Submitted
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Towards the numerical verification of plasma simulation codes

MIRKO VUKOVIC, Tokyo Electron, US Holdings — To aid in verification of existing and new plasma simulation codes, we propose a suite of standard simulation problems against which a new code would be compared with. Each standard problem provides a detailed input specifications and results in forms of tables of numeric values. The problems use an idealized and simplified reaction cross-section and rates set. The problems are designed to verify individual numerical components of plasma simulation codes and the overall plasma simulation. The issue of establishing a “correct” plasma simulation result will be discussed. In addition, we will discuss the portability of these problems: the problems should be specified in a manner that can be read by simulation codes written in different languages, and executed on different platforms.

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