

عنوان مقاله:

Simulation of Gas Flow through Micro-Nozzle with DSMC Method

محل انتشار:

همایش یافته های نوین در هوافضا و علوم وابسته (سال: 1394)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

The micro-nozzles widely have been used to control of space objects. This study developed an axisymmetric DSMC code to simulate gas flow through a micro-nozzle. For this task, a method for creating geometry on structured Cartesian grid is implemented. The numerical method is described appropriately. The result of simulation is compared with previous works and it shows the desired agreement. The density and temperature contours are provided which indicate that in the radial direction the density decreases nears the wall because of the higher temperature of gas. Moreover, the rapid expansion of gas near the nozzle lip leads to high flow rarefaction.

کلمات کلیدی:

DSMC; Micro-Nozzle; Axisymmetric flow

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