wall leads the kinetic energy cut down, and the velocity of airflow is cut down, too. For another, after the shock run into the air-inlet, it reflects at the wall many times, the pressure has been improved, but the energy is lost a lot during the process of fierce collision. It also results in the loss of velocity.

At the end of the fuselage, there is an expanded nozzle, the airflow's velocity gradually increased. From the Rawalpindi nozzle principle we know that the supersonic airflow's velocity is increased along with the cross section increased. So it also offers additional push.

Ⅵ. CONCLUSION

This paper utilizes the anti-modeling method to obtain the model similar to X-51A with the help of published pictures and related papers, creates meshes and does the numerical calculation. At last the primary flow-filed is acquired. We can get several conclusions as follows from the analysis of flow-filed:

(ⅰ) To some extent, the forebody with wave configuration can keep the wave-rider's character well, but as result of blunt edge, the high pressure airflow below lower surface is leaked, the lift is decreased, and so is the lift-to-drag ration.

(ⅱ) The first shock that is created when the supersonic airflow flows through the aircraft intersects the second shock which is created by the compression surface at the lip of air inlet, making the compressed airflow belonged to the second shock entirely flow into the inlet. This can save the mechanism design that is used to compress the inlet air and improve the facility utilization.

(ⅲ) Though the model is based on published pictures and papers, the analysis of numerical simulation indicates that the model is available for the further study.

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