

## 중간값 필터를 이용한 PIV 후처리에서의 임계값 결정

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### Determination of Threshold of the Median Filter Used for PIV Post-processing

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**Key Words:** PIV post-processing(입자화상유속계 후처리), Median filter(중간값 필터), Threshold (임계값)

**Abstract :** Determination of threshold of the median filter, which is commonly used in PIV post-processing, was investigated by performing a numerical simulation. Using two different threshold formulations, optimal ranges of the parameters that minimize total ratio of wrong detection of normal vectors as spurious vectors and wrong detection of spurious vectors as normal vectors were examined for two test fields. It was found that there is no significant difference in the performance of the filter depending on the parameterization of the threshold as long as the parameterization adequately reflects the locally varying characteristics of the flow field. The suggested parameters seems to be used satisfactorily for most of flow fields, while the performance can be further improved by performing a numerical simulation for a specific flow field.

## 미소 채널 내의 충격파 전파에 관한 연구

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### A Study on the Propagation of Shock Wave in Narrow Channels

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**Key Words:** Shock Tube(충격파 관), Narrow Channel(미소 채널), Propagation(전파), Reynolds Number(레이놀즈 수), Shock Wave(충격파), Supersonic Flow(초음속 유동).

**Abstract :** Recently, the demands for a better understanding of shock wave propagating at low Reynolds number, for example shock motion in very small tube and micron size particle moving at a supersonic which are related to the applications of shock waves to the fields of medical and industry, are necessitated. In these connections, as the first stage, to understand the flow with shock wave in narrow channel that is the viscosity effects are dominant, the propagation of shock wave in a tee of a narrow channel with Reynolds number which is possible to change with the variations of channel height is investigated. And, Schlieren method with spark nano-light of 20 ns is adopted and the pressure is measured by pressure sensor at several points in narrow channel.