

Abstract Submitted  
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**Wake behind circular cylinder excited by spanwise periodic disturbances** YUDAI SASAKI, IWAMI UCHIDA, JUN SAKAKIBARA, Meiji Univ  
— We experimentally investigated the influence of flow control of the wake behind a circular cylinder excited by temporal periodic disturbances with spanwise phase variations using plasma actuators, motivated by reducing drag forces by suppressing development of large scale vortices. Plasma actuators were segmented in the spanwise direction, phase differences were given to adjacent electrodes. This experiment was conducted at  $Re \simeq 8000$  and the wake was visualized by PIV. Compared to without forcing, when the phase difference is 180 and non-dimensional forcing frequency is higher than approximately 1.0, small vortices induced by periodic disturbance emerged in the free shear layer and the drag forces decreased.

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