

عنوان مقاله:

A Study of effect of floating vegetation on the formation of exchange flow

محل انتشار:

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خلاصه مقاله:

This study is concerned with the effect of floating vegetation on the exchange flow resulting from negative heat flux on open water by surface cooling. The problem configuration is comprised of two regions: open water and aquatic canopy area with floating vegetation. The negative heat flux resulting from night cooling, for example, makes a density difference between open water and canopy area, and hence drives an intrusion of warm water into the open region at the surface. Velocity distribution is measured by PIV method. The experiments are done for a range of vegetation density (0 to 15%) and root depth ratio (0 to 0.6). It is found that the drag in the canopy area is the most important factor affecting the exchange flow. The velocity of exchange flow is measured to be of the order 2 mms-1.

کلمات کلیدی:

exchange flow, surface cooling, PIV method, floating vegetation

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