

**عنوان مقاله:**

MODELLING OF HEAT AND MASS TRANSPORT AT INTERFACES

**محل انتشار:**

کنفرانس بین المللی کاربرد های مهندسی مکانیک (سال: 1371)

تعداد صفحات اصل مقاله: 8

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**خلاصه مقاله:**

Modelling of heat and mass transport across gas-liquid interfaces has been reviewed briefly in light of some new findings in our laboratory. Our experiments in a horizontal rectangular channel indicate that turbulence structures near boundaries (interface or wall) are governed by the shear rate. For low values of the interfacial shear rate, "patches" are observed at the interfaces that are formed from the ejections generated near the wall. For high values of the interfacial shear rate, the low-speed/high-speed streaks are formed at the interface that break down as "bursts". From these observations, it appears that the scalar transport at the interface is dominated by different mechanisms depending on the interfacial shear rate. For low shear rates that lead to patches, transport rates are related to parameters associated with these patches (patch area and patch residence time). For shear rates high enough to form streaks and bursts in the interface region, transport rates are obtained considering that the interfacial bursts/ejections govern the process. These models both show excellent predictions of the transport coefficients near the non-wavy gas-liquid interfaces

**کلمات کلیدی:**

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1885141>

