Abstract :
Two different methods have been proposed in [1-6] for modernizing deflected-jet trays: 1) partial sectionalization; 2)
compensation of the cross-flow on the tray. With either method, the tray efficiency and the mass transfer rates are increased
without any significant increase of hydraulic resistance, so that the overall size of the mass transfer equipment can be reduced.
Mass transfer on directional-jet trays sectionalized with longitudinal partitions (Fig. 1) has been investigated in a
column with a rectangular cross section (600 x 300 mm) in the desorption of carbon dioxide from an aqueous solution by air;
this study was aimed at determining the liquid-phase mass transfer coefficient and how it is influenced by various functional
and design parameters.
It was established that as the gas velocity in the column w e and the liquid load L v are increased, the liquid-phase mass
transfer coefficient increases (Fig. 2). The major effect from increasing the liquid load can be attributed to the increased height
of the static liquid layer on the tray. This effect is more pronounced at higher gas velocities in the column (I .8-2 m/sec).