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On A Turbulent Mixing Layer Created Downstream Of A Λ-Shaped Trailing Edge BORIS ZAKHARIN, ISRAEL WYGNANSKI, AME Dept., University of Arizona — Measurements were carried out in a turbulent mixing layer formed by two parallel streams differing in velocity downstream of a splitter plate that had a Λ-shaped trailing edge. It appears that the transverse rate of spread of the mixing layer is defined by the local distance downstream of the trailing edge. However the mixing layer shifted toward the high-speed stream at its center span that is directly downstream of the Λ-notch in the splitter plate, while its sides bent toward the low speed stream. This bending persisted over long distances from the splitter plate. The existence of a pair of counter rotating streamwise eddies that dominate the flow and substantially increase its level of turbulence relative to the classical plane mixing layer could explain these observations. The idea was tested by adding vortex generators and was shown to be valid.

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