Observations and numerical simulations have been used to study different mixed layer model approximations to estimate the entrainment velocity, considering various types of boundary layers. The result of this investigation is that the FOM jump model is appropriate for all convective boundary layers while the ZOM model is only relevant for cases of sharp inversion, like those found in stratuscumulus-topped boundary layers. The choice of the appropriate model is also important for the attempt of estimating entrainment fluxes of scalars themselves deduced from the entrainment velocities that are calculated from another scalar.

**REFERENCES**