

Mixing Is an Aggregation Process

E. Villermaux⁽¹⁾, J. Duplat⁽²⁾

(1) *IRPHE, France*

(2) *IUSTI, France*

Experiments show how a stirred scalar mixture relaxes towards uniformity through an aggregation process. The elementary bricks are stretched sheets whose rates of diffusive smoothing and coalescence build up the overall mixture concentration distribution. The cases studied in particular include mixtures in two and three dimensions, with different stirring protocols and Reynolds numbers which all lead to a unique family of concentration distributions stable by self-convolution, the signature of the aggregation mechanism from which they originate.

[View the extended summary](#)