

**Limit theorems in integration theory
for semigroup valued functions**

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Abstract

We prove a new limit theorem for uniform semigroup valued functions using a Caccioppoli-Vitali type condition. Moreover, following an idea of Cafero, we obtain a limit theorem in the case of sequences of integrals defined with respect to different measures. We compare our results with the limit theorems proved by Sion (“A theory of semigroup valued measures”, *Lect. Notes in math. Springer Verlag, Berlin, 1973*) and by Millington (“Products of group-valued measures”, *Studia Math.* 54, 1975, 7-27).).