957-26-109 **Zoltán Buczolich*** (buczo@cs.elte.hu), Department of Analysis, Eötvös University, Budapest, Kecskemëti utca 10-12, H-1053 Hungary. *On tensor products of AC_* charges and Radon measures.* Preliminary report.

Additive and continuous functions defined on sets of bounded variation (i.e. on BV, or Caccippoli sets) are called charges. Recently, due to their applicability to descriptive definition of some nonabsolute integrals with good and general properties, the so called AC_* charges received some attention. A charge F is AC_* if the associated variational measure V_*F is absolutely continuous with respect to the Lebesgue measure. For nonabsolute integrals usually there are no Fubini type theorems. This is why the following, so called, Tensor Problem is of interest: Let μ be a Radon measure in $\mathbb{R}^n$, and let F be a charge in $\mathbb{R}^m$ where m and n are positive integers. Given a bounded BV set $B \subseteq \mathbb{R}^{m+n}$, let

$$B^y = \{x \in \mathbb{R}^m : (x, y) \in B\}$$

and

$$(F \otimes \mu)(B) = \int_{\mathbb{R}^n} F(B^y) d\mu(y).$$

It is not difficult to see that $F \otimes \mu$ is a charge and and the question is whether $F \otimes \mu$ is AC_* in $E \times \mathbb{R}^n$ whenever F is AC_* in a locally BV set $E \subseteq \mathbb{R}^m$. In our talk we discuss when, depending on the properties of μ, we have a positive or negative answer to the Tensor Problem.

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