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*Baouendi-Treves Approximation formula for Gevrey ultradistributions*

The Baouendi-Treves approximation Theorem is considered one of the most important results in the theory of locally integrable structures. Having in mind applications in the Gevrey category we proved the following version of this result: given a locally integrable structure defined in an open set  $U$  of  $\mathbb{R}^N$  where we have defined a family of first integrals, then for every  $p \in U$  there are  $V \subset\subset W \subset U$  open neighborhoods of  $p$  such that any  $G^s$  solution of the locally integrable structure in  $W$  may be approximate in  $V$  by polynomials of the first integrals in the  $G^s$ -topology.

We also proved this result for ultradistribution solutions where the limit is to be considered with respect to the  $\mathcal{D}'_s$ -topology.

This is a joint work with G. Hoepfner and R. Medrado.