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Convolution and \mathcal{S}' -Convolution of Distributions

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Abstract. In the first section of this paper we prove a characterization of integrable distributions which shows that the two definitions for the convolution of distributions given by L. SCHWARTZ and W.S. WLADIMIROW are equivalent. In the second section we consider the corresponding situation for the \mathcal{S}' -convolution which was introduced by Y. HIRATA and H. OGATA. We then give an example of two tempered measures whose convolution is a non-tempered measure. This answers a question of R. SHIRAIISHI.

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