# SCALE INVARIANCE OF STATISTICAL EXPERIMENTS

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*Abstract:* It has been shown by Le Cam [5] that weak limits of experiments, which are parametrized in a certain way, typically satisfy an invariance condition which is called translation invariance. It is shown in the present paper that weak limits of product experiments with identical factors can be characterized by stability. This property has been considered already by Mülller [10] under the label scale invariance. There is given a complete description of all Gaussian experiments which are translation and stable. Any translation invariant experiment with finite-dimensional parameter space which is stable with exponent $p = 2$ must be a Gaussian shift. These results specify and extend indications of Mülller [10].

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