

84. Zvi Artstein, **Compact convergence of σ -fields and relaxed conditional expectation**. Probability Theory and Related Fields 120 (2001), 369-394.

Abstract. The collection of sub- σ -fields of a Borel measure space when endowed with the topology of strong convergence is in general not a compact space. The paper offers a completion of this space which makes it compact. The elements which are added to the space are called relaxed σ -fields. A notion of relaxed conditional expectation with respect to a relaxed σ -field is identified. The relaxed conditional expectation is a probability measure-valued map. It is shown that the conditional expectation operator is continuous on the completion of the space. Other properties of conditional expectation are lifted to and interpreted in the relaxed framework.

For a copy of this paper send a request to zvi.artstein@weizmann.ac.il.