

- ADI JARDEN, ALON SITTON, *Independence of Sets Without Stability*.
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We prove the existence of an independence relation on sets, one can define dimension by it, assuming that we have an abstract elementary class with a forking notion that satisfies the axioms of a good frame minus stability.

Introduction. In [JrSh 875] we study stability theory without assuming stability, but weak stability. The main purpose is to study abstract elementary classes (in short a.e.c.'s) which are PC_{\aleph_0} . The theorems we prove here, can serve this purpose. But they might be applied in other contexts too.

The frame we define in the present paper (“good frame minus stability”) is similar to the weak forking notion which is defined in [GrKo], which is parallel to simple first order theories.

The independence relation defined here is similar to the independence relation which is defined in [Sh 705]. However we improve the theorems that were obtained in [Sh 705]:

1. We do not assume any trace of stability.
2. We do not assume successfulness.
3. We do not assume *goodness*⁺.
4. We prove several important propositions without assuming that $K^{3,uq}$ has existence.

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[Sh:h]Saharon Shelah. Classification theory for non-elementary classes. A book In Press.

[JrSh 875]Adi Jarden and Saharon Shelah. Good frames with a weak stability. 73 pages. Submitted at A.P.A.L. Preprint available at <http://front.math.ucdavis.edu/0901.0852>.

[Sh 88]Saharon Shelah. Classification of nonelementary classes, II. Abstract Elementary Classes. In **Classification Theory (Chicago IL 1985)**, volume 1292 of *Lecture Notes in Mathematics*, pages 419–497. Springer, Berlin, 1987. Proceedings of the USA-Israel Conference on Classification Theory, Chicago, December 1985; ed. Baldwin, J.T.

[Sh 600]Saharon Shelah. Categoricity in abstract elementary classes: going up inductive step. 130 pages. It is one of the chapters of [Sh:h] Preprint available at <http://front.math.ucdavis.edu/0011.5215>.

[Sh 838]Saharon Shelah. Non-structure in λ^{++} using instances of WGCH It is one of the chapters of [Sh:h] Preprint available at <http://front.math.ucdavis.edu/0808.3020>.

[Sh 705]Saharon Shelah. Toward classification theory of good λ frames and abstract elementary classes. 149 pages. It is one of the chapters of [Sh:h] Preprint available at <http://front.math.ucdavis.edu/0404.5272>.