Remarks on Dissipative Dynamical Systems

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1. [1, Theorem 1.1.2] (Global Attractors) and [1, Theorem 1.1.3] (Strong Global Attractors) are valid for any metric space (X, d), see also [1, Remark 1.1.3].

2. All results in [1, Section 1.2] are valid if we only assume that (X, d) is a metric space.

3. All results in [1, Sections 1.3.1 and 1.3.2] are vaid if we only assume that (X, d) is a metric space.

4. In [1, Lemma 1.3.2], (X_0, d_0) is a complete metric space provided that (X, d) is a complete metric space. However, [1, Theorems 1.3.6 and 1.3.7] are still valid if (X, d) is a metric space. This is because the proofs of them also work if (X_0, d_0) is a metric space, see Remark 1 above.

5. [1, Theorems 1.3.8, 1.3.9 and 1.3.10] are still valid if we assume that X is an open subset of a Banach space and $f : \overline{X} \to \overline{X}$ is α-condensing or convex

α-condensing.

The observation in Remark 5 is useful for us to obtain the uniform persistence for other variables after we prove the uniform persistence for some variables in a specific evolution system.

References

[1] X.-Q. Zhao, *Dynamical Systems in Population Biology*, second edition, Springer-Verlag, New York, 2017.