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LaSalle's Invariance Principle on Measure Chains

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Oral Presentation 3.1

LASALLE'S INVARIANCE PRINCIPLE ON MEASURE CHAINS

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In the difference calculus, we are concerned with purely discrete cases. In the differential calculus, we are concerned with purely continuous cases. The separation and separate development of these two calculuses in conceptually disunified, inelegant, and involves much additional effort. Drs. Bernd Aulbach and Stefan Hilger developed a calculus on measure chains which includes the difference and differential calculuses as special cases. Measure chains are a certain kind of subset of the real line.

Lasalle's Invariance Principle is a result on stability. It is an extension of Liapunov's theorem. Lasalle has established his Principle in both the continuous and the discrete cases.

I will prove Lasalle's Invariance Principle in the context of the measure chain calculus. This demonstration will represent an extension of the Principle and will show the conceptual power of the measure chain calculus.