Strongly Complete Axiomatizations for Logics of Dynamical Systems

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Abstract. A *discrete-time dynamical system* is typically represented as a pair $\langle X, f\rangle$, where X is the state space and $f : X \to X$ is a transition function describing the system's evolution over time. The state space X often carries additional mathematical structure, such as an order, topology, metric, or measure, that is preserved by f.

This talk focuses on two expressive logical frameworks for reasoning about such systems: *Dynamic Topological Logic* and its variant, *Intuitionistic Temporal Logic*. Both provide formal languages for capturing temporal and spatial properties of dynamical systems. I will survey recent results and techniques in the field, with particular emphasis on methods and results concerning the problem of strongly complete axiomatizations for these logics.

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