

# Models of High-Level Declarative Stream Processing

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**Abstract.** In recent years, many ideas, concepts, and techniques for processing low-level streams—such as streams of sensor data—have been adapted to processing streams of assertions—such as RDF streams. Most of the existing models for high-level declarative stream processing implement common ideas, but in particular w.r.t. the window semantics they (may) show differences that are due to the intended application scenarios, the underlying ontology expressivity, the modeling paradigm, or the expressivity of the language in which background knowledge is modelled. In this talk I am going to focus on a specific model for high-level declarative stream processing, the one that was used for the query language STARQL, and report on insights that we gained in implementing a STARQL stream-temporal sub-module within the software platform developed in the FP7 project Optique.

**Keywords:** streams, OBDA, temporal reasoning