

# **Title: Comparing the succinctness of monadic query languages over finite trees**

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**Abstract:** We study the *succinctness* of monadic second-order logic and a variety of monadic fixed point logics on trees. All these languages are known to have the same expressive power on trees, but some can express the same queries much more succinctly than others. For example, we show that, under some complexity theoretic assumption, monadic second-order logic is non-elementarily more succinct than monadic least fixed point logic, which in turn is non-elementarily more succinct than monadic datalog.

Succinctness of the languages is closely related to the combined and parameterized complexity of query evaluation for these languages.

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