The SkyLLH framework for IceCube point-source search

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What is this contribution about?

The open-source Python3-based tool "SkyLLH" provides a modular framework for implementing custom likelihood functions and executing log-likelihood ratio hypothesis tests

Why is it relevant / interesting?

The implementation of generalized concepts makes the framework easy to use for neutrino point-source search in IceCube and also for searches of other messenger particles in other experiments

What have we done?

The SkyLLH framework is being developed within the IceCube collaboration as a standard tool to search for neutrino emitting sources in the Universe

What is the result?

The framework was used in A New Search for Neutrino Point Sources with IceCube[1] analysis with the likelihood construction based on kernel density estimator PDFs

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[1] IceCube Collaboration PoS ICRC2021 (2021) 1138