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Archival Neutrino Skymaps with SkyLLH: IceCube's Latest Public Release

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IceCube has continuously performed all-sky searches for point-like neutrino sources using track-like events. This talk presents a new public data release of astrophysical and atmospheric muon neutrino candidates recorded between April 6, 2008, and May 23, 2022. The dataset includes both through-going and starting muon-induced events reprocessed according to the latest detector calibration while also adding 4 more years of data compared to the previous data release version. It is accompanied by binned detector response functions, enabling sensitive searches for both transient and continuous sources. To support and simplify the use of this data, IceCube provides SkyLLH, an open-source, Python-based modular framework for neutrino source searches. SkyLLH enables users to perform likelihood-based analyses for both transient and continuous emission scenarios across a variety of spectral shapes, leveraging effective areas and detector responses. This talk will provide an overview of the dataset and demonstrate how SkyLLH facilitates its use in multi-messenger and time-domain studies.

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