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Abstract	This work proposes a hemispherical microphone array to measure a hovering quadrotor drone at constant and accelerating thrust conditions. The purpose of the measurement is to capture the sound radiation in a spherical sampled microphone array configuration. This configuration allows for the spherical harmonic decomposition of the source signal enabling the extrapolation of measured data to non-probed positions. Additionally, the recorded signals are translated to psychoacoustic metrics (e.g. loudness, tonality, roughness, sharpness, and fluctuation strength) to obtain spatial information of the noise source. With this configuration, the drone directivity noise is quantified to provide insights into the regulatory process. Finally, the dataset can be used for the rendering of moving source sound synthesis and immersive spatial sound reproduction for psychoacoustics analysis and noise detection algorithms.
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