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Towards reconstructing dilepton flow in Au+Au collisions at low energies with HADES*

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In March 2024, the High Acceptance DiElectron Spectrometer (HADES) at GSI Darmstadt, Germany collected data on dielectron production in Au+Au collisions at a beam energy of 0.8 A GeV. One of the most intriguing aspects of this physics program is to investigate the strongly interacting medium which exhibits similar conditions to those in the final stages of a neutron-star merger or the early Universe. One specific focus will be to characterize the collision system by examining the dielectron flow. The electron pairs, resulting from the virtual photon decay, will allow us to access direct and unperturbed information throughout the entire fireball evolution.

In the HADES experiment, the Ring-Imaging Cherenkov (RICH) detector operates as a high-efficiency electron identifier. The performance of the RICH is crucial for reconstructing pure electron pairs, especially in this heavy collision system where hadron multiplicities are large.

In this contribution, we will first discuss the calibration and performance of the HADES RICH. Additionally, we aim to present the first results on the extracted dilepton flow in the corresponding system.

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