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From smeared spectral functions to the lattice calculation of inclusive semileptonic decays

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Hadronic spectral functions are important objects as they can be used to calculate several phenomenologically relevant quantities. However, in order to extract these quantities from Euclidean correlation functions it is necessary to solve an ill-posed inverse problem of the Laplace type.
In this talk we discuss one of the recently proposed method for the extraction of spectral densities based on the Backus-Gilbert algorithm.
Furthermore, we show one of the many possible application of the method which is the lattice calculation of inclusive semileptonic decays of heavy mesons.

Primary authors: Mr SMECCA, Antonio (Università di Torino & INFN); Dr SANFILIPPO, Francesco (INFN Roma Tre); Prof. PANERO, Marco (Università di Torino & INFN); Prof. TANTALO, Nazario (Università di Roma "Tor Vergata" & INFN); Mr MÄCHLER, Sandro (Università di Torino & University of Zurich); Prof. HASHIMOTO, Shoji (KEK, SOKENDAI); Dr SIMULA, Silvano (INFN Roma Tre); Prof. GAMBINO, Paolo (Università di Torino & INFN)

Presenter: Mr SMECCA, Antonio (Università di Torino & INFN)

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