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Application of quantum graph neural network on detector data

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We explore applications of quantum graph neural network(QGNN) on physics and non-physics data set. Based on a single quantum circuit architecture, we perform node, edge, and graph-level prediction tasks. Our main example is particle trajectory reconstruction starting from a set of detector data. Along with this, we expand our analysis on artificial helical trajectory data set. Finally, we will check how our quantum algorithm applies for non-physics data set as well by looking at Fingerprint data set in MUTAG, and AIDS data set, which collects molecular compounds graphs, focusing on graph-level task.

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