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Universal Conductance of Quantum Multiwire Junctions with Entanglement Renormalization YA-LIN LO, YUN-DA HSIEH, National Taiwan University, CHANG-YU HOU, California Institute of Technology, POCHUNG CHEN, National Center for Theoretical Sciences, YING-JER KAO, National Taiwan University, YUN-DA COLLABORATION, CHANG-YU COLLABORATION, POCHUNG COLLABORATION, YING-JER COLLABORATION — We study the universal conductance of quantum multiwire junctions via muti-scale entanglement renormalization ansatz (MERA). MERA, in its scale invariant from, provides an efficient way to extract scaling operators and scaling dimensions for both bulk and boundary conformal field theories. By utilizing the key relationship between the conductance tensor and ground-state correlation function, the universal conductance can be evaluated within the framework of boundary MERA. In particular, we study the Kane and Fisher fixed point of two interacting wires with an impurity. We demonstrate how to construct boundary MERA to estimate the current-current correlation function and scaling dimensions. We show that the universal behavior of the junction can be clearly identified within MERA. This show the grand potential of using boundary MERA to classify the fixed points of the general multiwire junctions.

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