Hypergeometric-Meijer G Resummation in Quantum Field Theory ABOUZEID SHALABY, Qatar University — Inspired by the simple Hypergeometric resummation algorithm in PRL. 115, 143001 (2015), we developed the Hypergeometric-Meijer G Resummation algorithm that can incorporate all weak-coupling, strong-coupling and Large-order data. We shall shed light on its simplicity and power to predict precise results in different problems in physics from PT-symmetric models, quantomechanical problems as well as critical exponents of the O(N)-symmetric quantum field model. We also stress how within this algorithm one can link exact critical exponents to known parameters from a Large-order parameter, a vey important realization (for the first time) as explained in our article in arXiv:1911.03571.

Abouzeid Shalaby
Qatar University