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Unearthing the excited hadron resonances in lattice QCD using NSF XSEDE resources[1]

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Recent advances in computational techniques in lattice QCD, combined with the formidable capabilities of NSF XSEDE computing and data management resources, has enabled unprecedented access for theoretical studies to QCD excited states. First results of stationary-state levels in several symmetry sectors using very large sets of both single-meson and two-meson operators are presented. Our results are obtained in large volumes using quark masses producing a pion mass of 240 MeV, nearing the physical limit. Level identification using probe operators is discussed.

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