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Removing power divergent mixing from nonperturbative matrix elements CHRISTOPHER MONAHAN, University of Utah, KOSTAS ORGINOS, The College of William and Mary/Jefferson Lab — Parton distribution functions (PDFs) are one of the primary theoretical tools connecting hadrons to their constituent quarks and gluons. Ab initio determinations of PDFs from lattice quantum chromodynamics have been hindered by power-divergent mixing arising from the broken Lorentz symmetry of the lattice. We discuss a new method to extract non-perturbative matrix elements free from power divergent mixing. Our method is quite general and extends to a range of lattice calculations subject to power divergent mixing, such as the matrix elements for K to pi pi decays and neutral B-meson mixing.

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