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Muon $g-2$ with overlap valence fermions

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We present a lattice calculation of the window contribution ($t_0 = 0.4$ fm, $t_1 = 1.0$ fm, $\Delta = 0.15$ fm) of the leading order hadronic vacuum polarization contribution to the muon $g-2$ using overlap valence fermions on 4 physical-point ensembles. Two 2+1 flavor ensembles use the domain wall fermion (DWF) and Iwasaki gauge actions at $a = 0.084$ and 0.114 fm, and two 2+1+1 flavor ensembles use the highly improved staggered quark (HISQ) actions and Symanzik gauge actions at $a = 0.088$ and 0.121 fm. For $a_{\text{con},l}^{\text{W}}$, we find that our results on the two smaller lattice spacings are consistent with those using the unitary setup, but those at the two coarser lattice spacings have small differences.

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