Kaon mixing: chiral and continuum extrapolations

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Contents

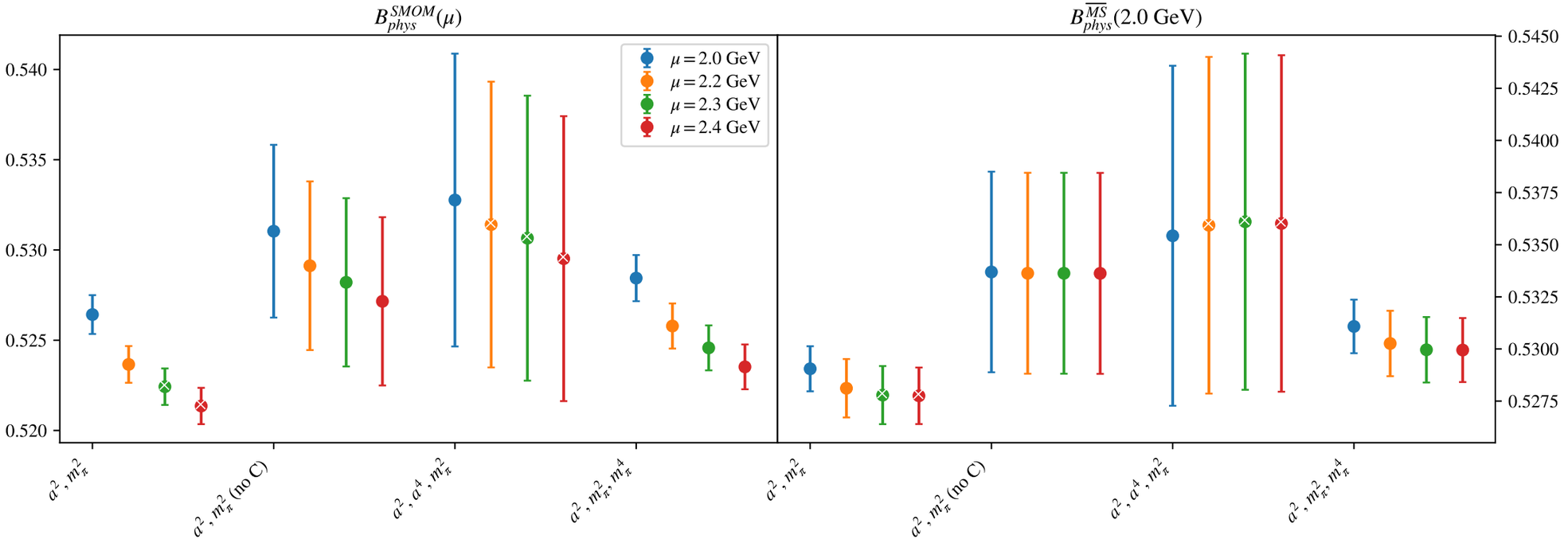


Figure 1: B_1
(left) B_{phys} in RI/SMOM scheme from fit variations (fits with p-value < 0.05 marked with "$\times$").
(right) B_{phys} in $\overline{MS}$ computed using $B^{\overline{MS}} = R^{\overline{MS} \leftarrow SMOM}(2.0)\sigma_{npt}(2.0, \mu)B^{SMOM}(\mu)$.

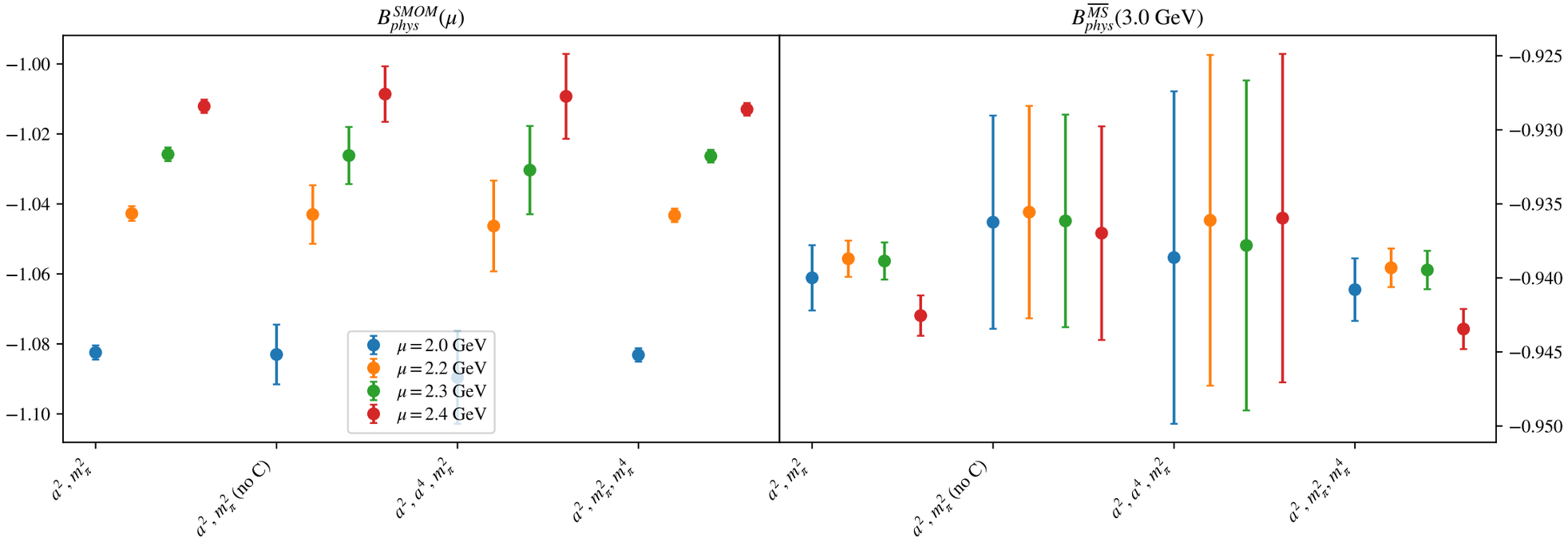


Figure 2: B_2
(left) B_{phys} in RI/SMOM scheme from fit variations (fits with p-value < 0.05 marked with "$\times$").
(right) B_{phys} in $\overline{MS}$ computed using $B^{\overline{MS}} = R^{\overline{MS} \leftarrow SMOM}(3.0)\sigma_{npt}(3.0, \mu)B^{SMOM}(\mu)$.

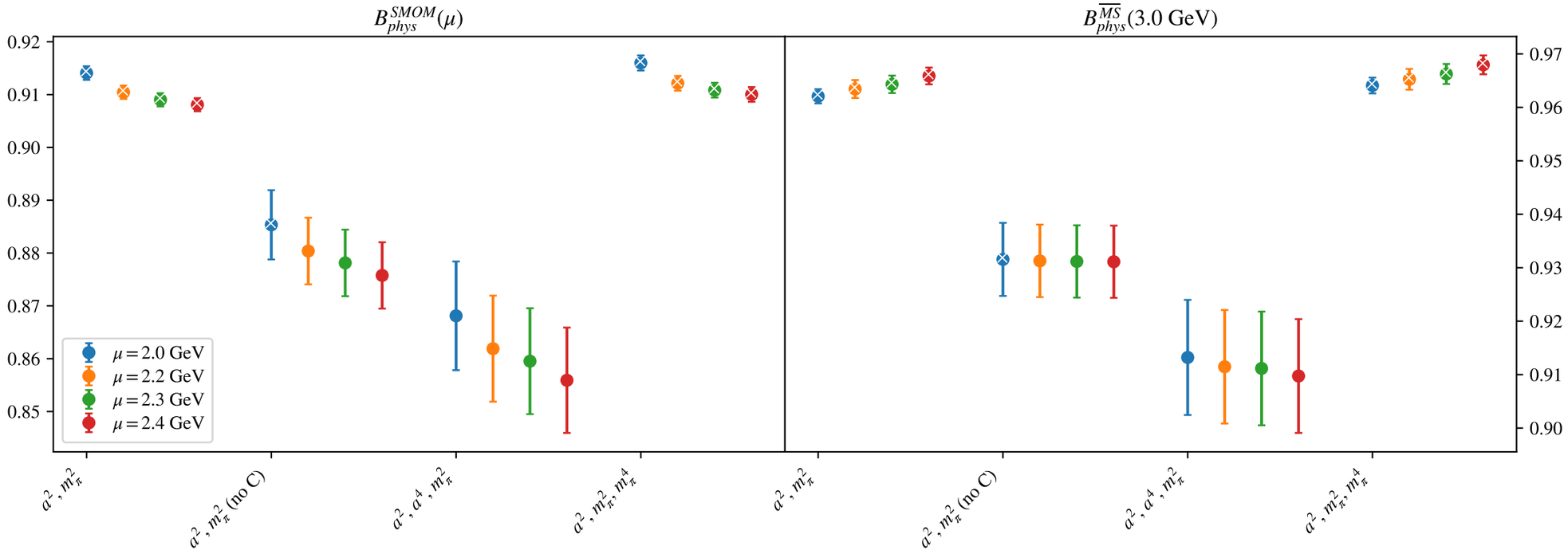


Figure 3: B_3
(left) B_{phys} in RI/SMOM scheme from fit variations (fits with p-value < 0.05 marked with "$\times$").
(right) B_{phys} in $\overline{MS}$ computed using $B^{\overline{MS}} = R^{\overline{MS} \leftarrow SMOM}(3.0)\sigma_{npt}(3.0, \mu)B^{SMOM}(\mu)$.

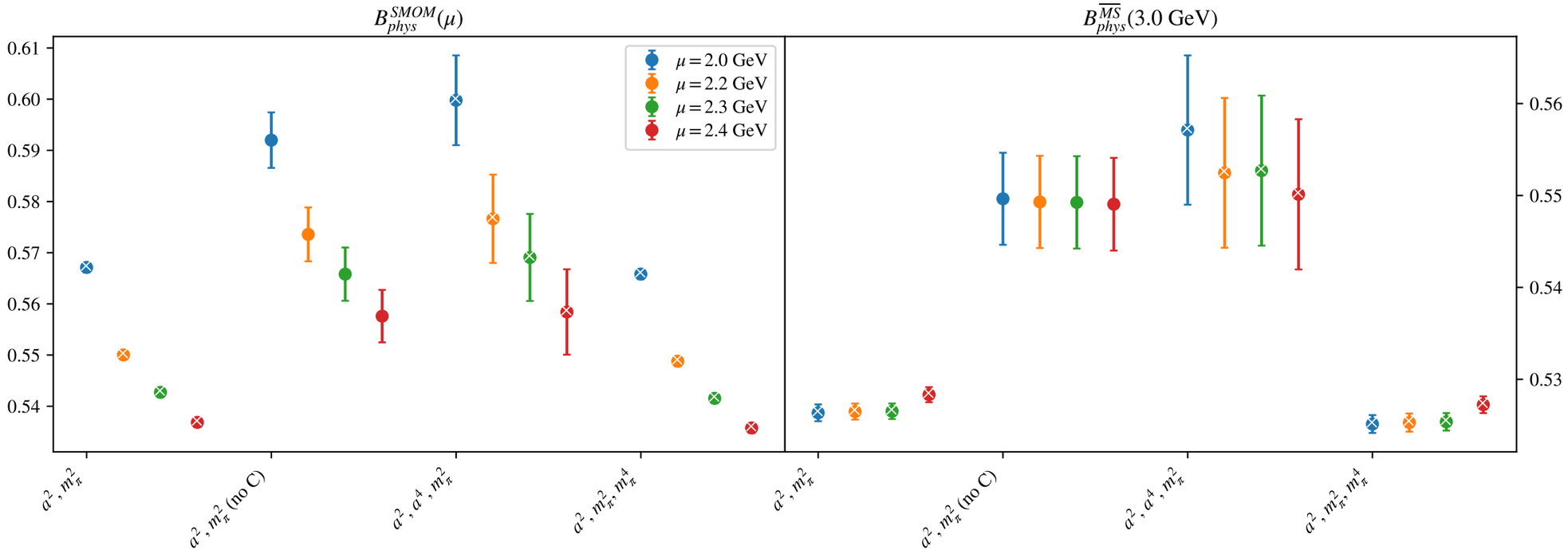


Figure 4: B_4
(left) B_{phys} in RI/SMOM scheme from fit variations (fits with p-value < 0.05 marked with "$\times$").
(right) B_{phys} in $\overline{MS}$ computed using $B^{\overline{MS}} = R^{\overline{MS} \leftarrow SMOM}(3.0)\sigma_{npt}(3.0, \mu)B^{SMOM}(\mu)$.

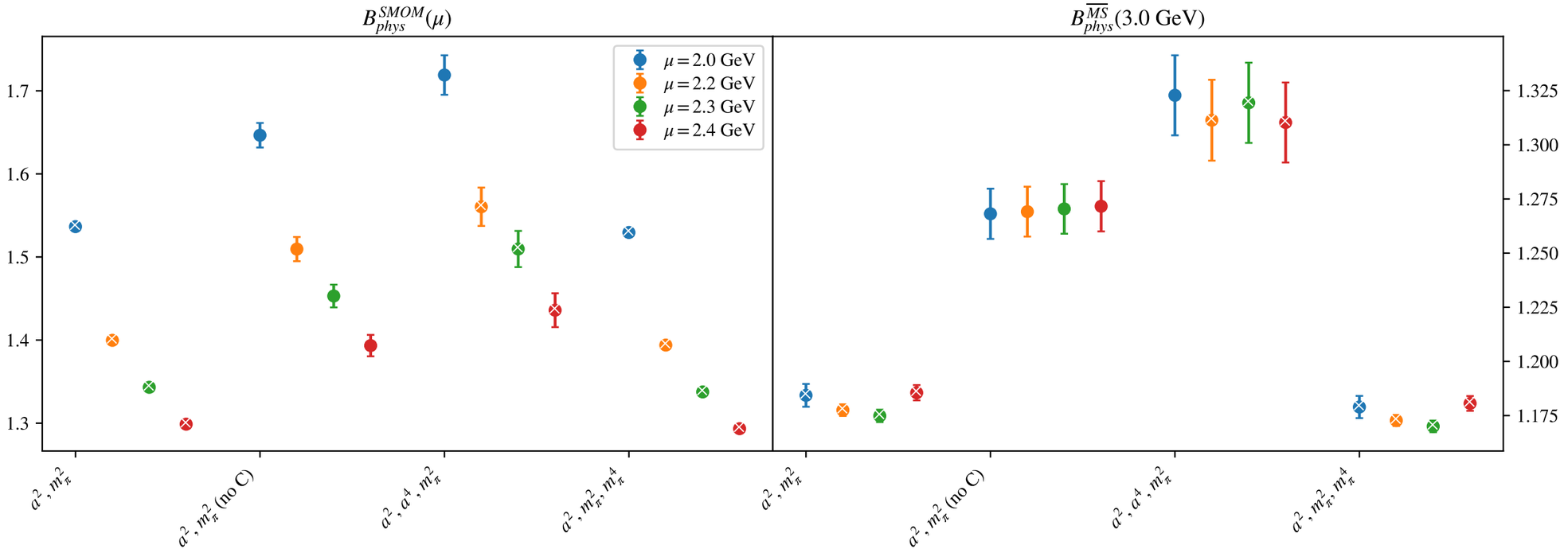


Figure 5: B_5
(left) B_{phys} in RI/SMOM scheme from fit variations (fits with p-value < 0.05 marked with "$\times$").
(right) B_{phys} in $\overline{MS}$ computed using $B^{\overline{MS}} = R^{\overline{MS} \leftarrow SMOM}(3.0)\sigma_{npt}(3.0, \mu)B^{SMOM}(\mu)$.

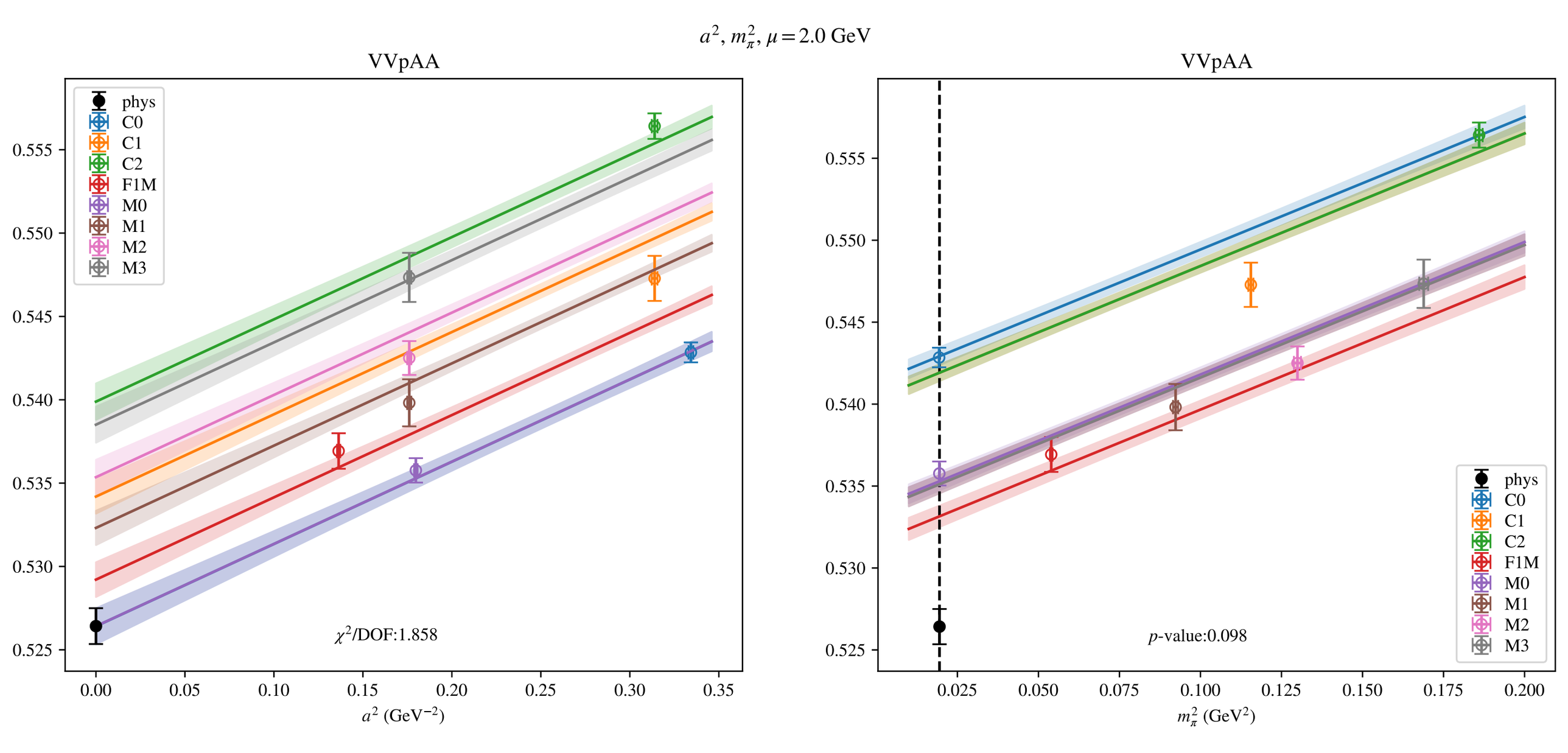
1 B_1

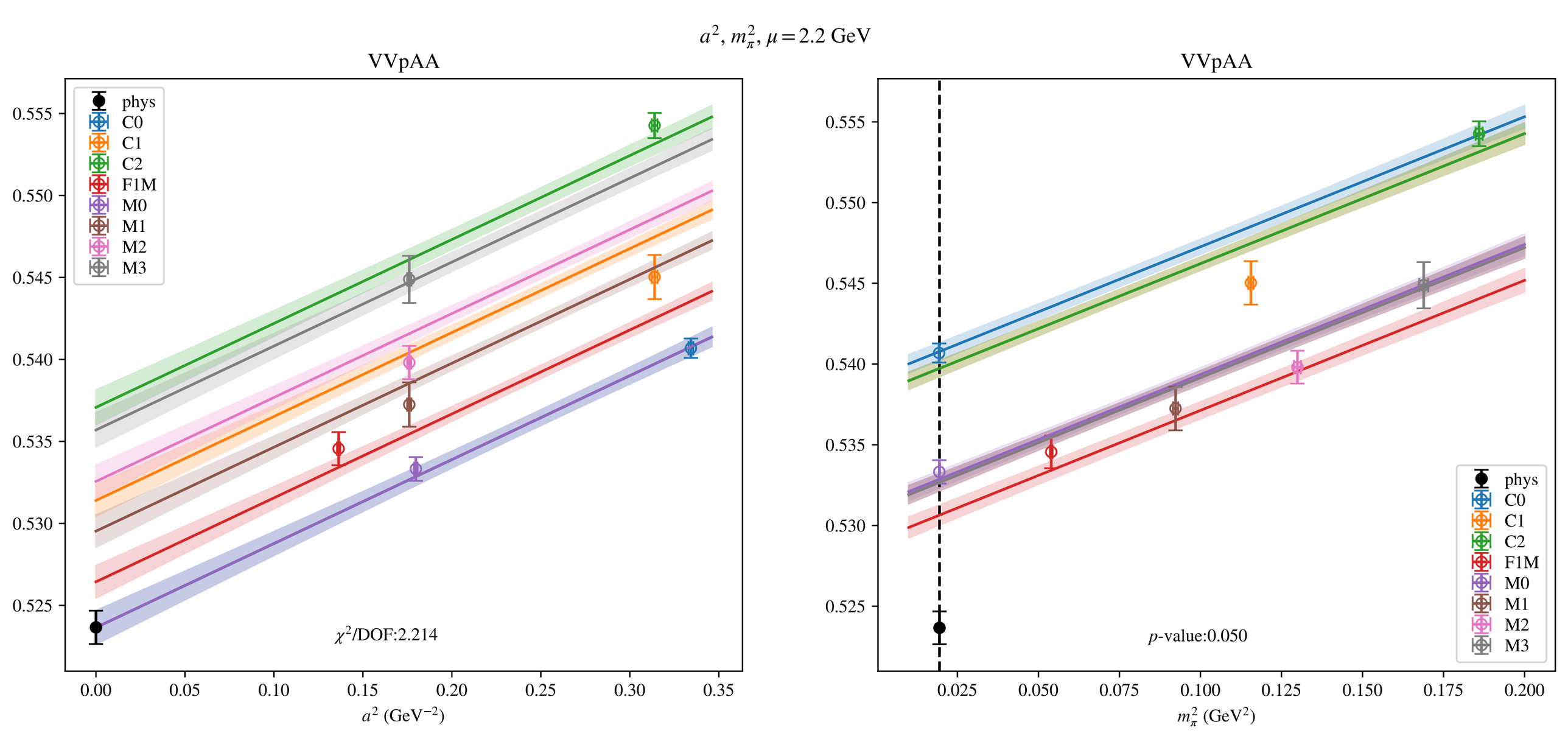
μ (GeV)	a^2, m_π^2	a^2, m_π^2 (no C)	a^2, a^4, m_π^2	a^2, m_π^2, m_π^4
2.0	**0.5264(10)**: 1.858 (0.098)	**0.5310(47)**: 0.876 (0.417)	**0.5327(81)**: 2.173 (0.069)	**0.5284(12)**: 0.661 (0.619)
2.2	**0.5236(10)**: 2.214 (0.05)	**0.5291(46)**: 1.143 (0.319)	**0.5314(79)**: 2.525 (0.039)	**0.5257(12)**: 0.923 (0.449)
2.3	**0.5224(10)**: 2.304 (0.042)	**0.5282(46)**: 1.197 (0.302)	**0.5306(78)**: 2.605 (0.034)	**0.5245(12)**: 0.993 (0.41)
2.4	**0.5213(10)**: 2.348 (0.039)	**0.5271(46)**: 1.223 (0.294)	**0.5295(78)**: 2.663 (0.031)	**0.5235(12)**: 1.005 (0.403)

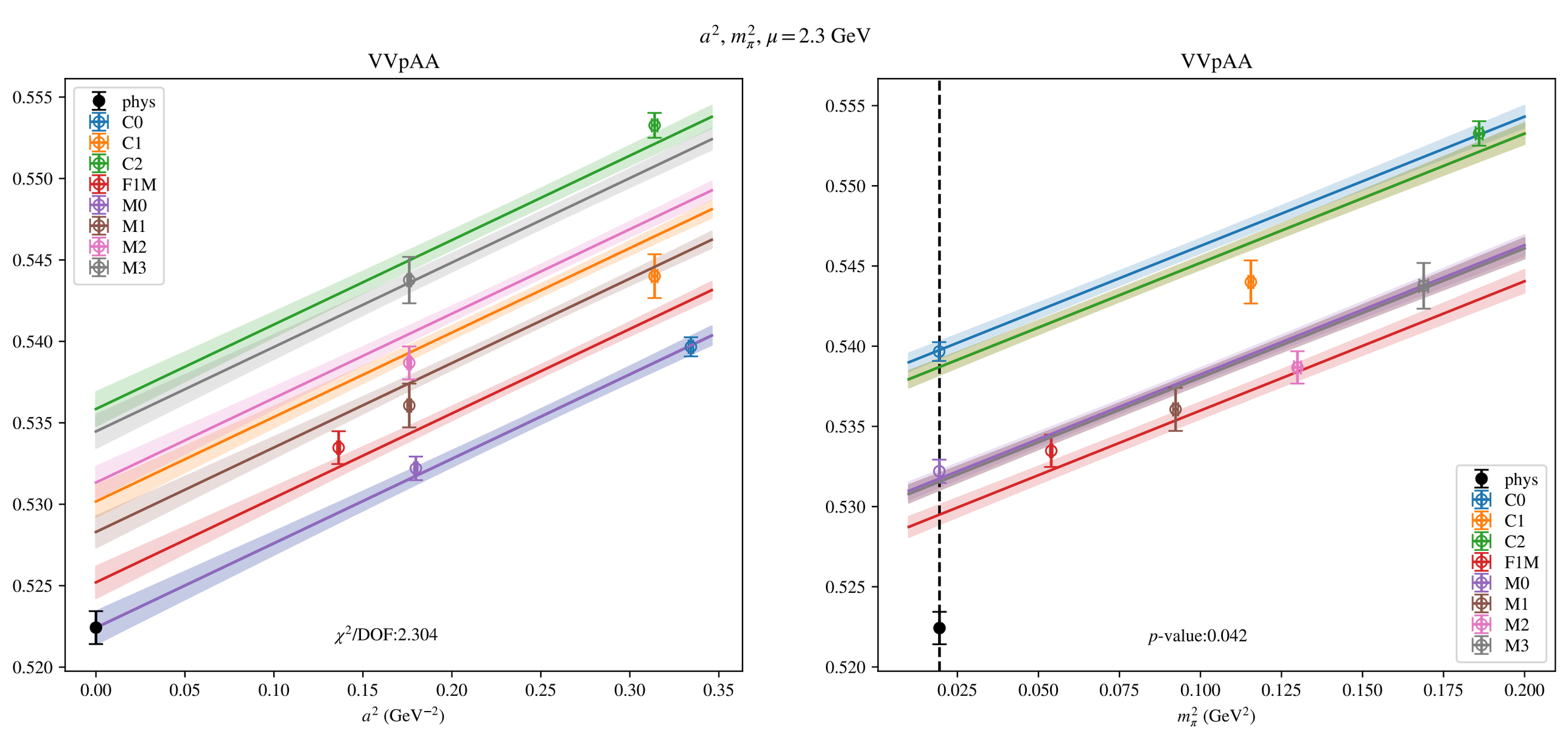
Table 1: Physical point value from chiral and continuum extrapolation at renormalisation scale μ. Entries are **value(error)**: χ^2/DOF (p-value).

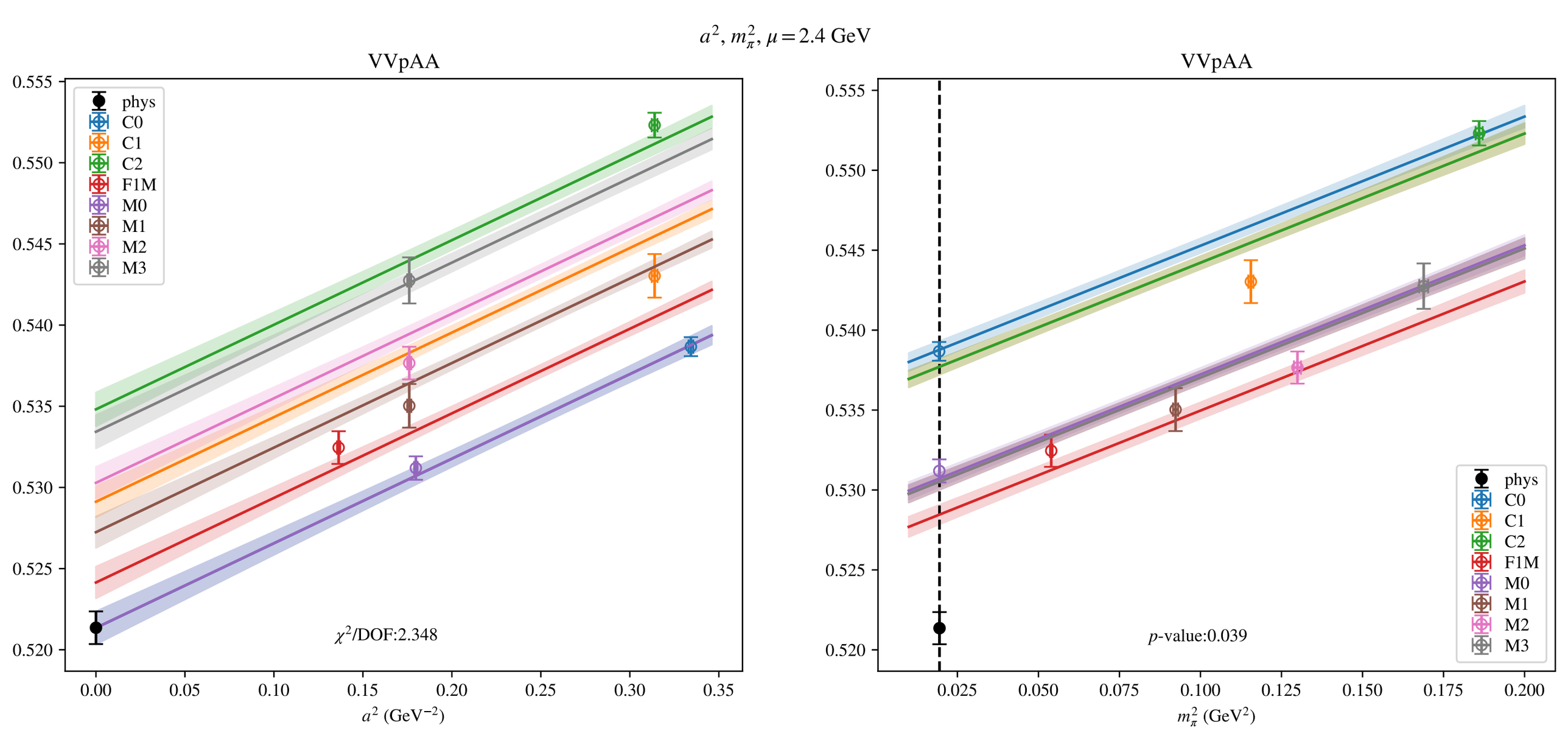
μ (GeV)		a^2, m_π^2	a^2, m_π^2 (no C)	a^2, a^4, m_π^2	a^2, m_π^2, m_π^4
2.0	α	0.0937(71)	0.047(53)	-0.017	0.0813(82)
	β	0.00261(14)	0.00223(27)	0.00263(15)	0.00031(90)
2.2	α	0.0977(70)	0.041(52)	-0.038	0.0846(82)
	β	0.00261(14)	0.00220(27)	0.00264(14)	0.00020(89)
2.3	α	0.0992(70)	0.039(52)	-0.045	0.0859(82)
	β	0.00262(14)	0.00220(27)	0.00265(14)	0.00018(89)
2.4	α	0.0999(70)	0.040(52)	-0.044	0.0864(82)
	β	0.00263(14)	0.00220(27)	0.00266(14)	0.00017(89)

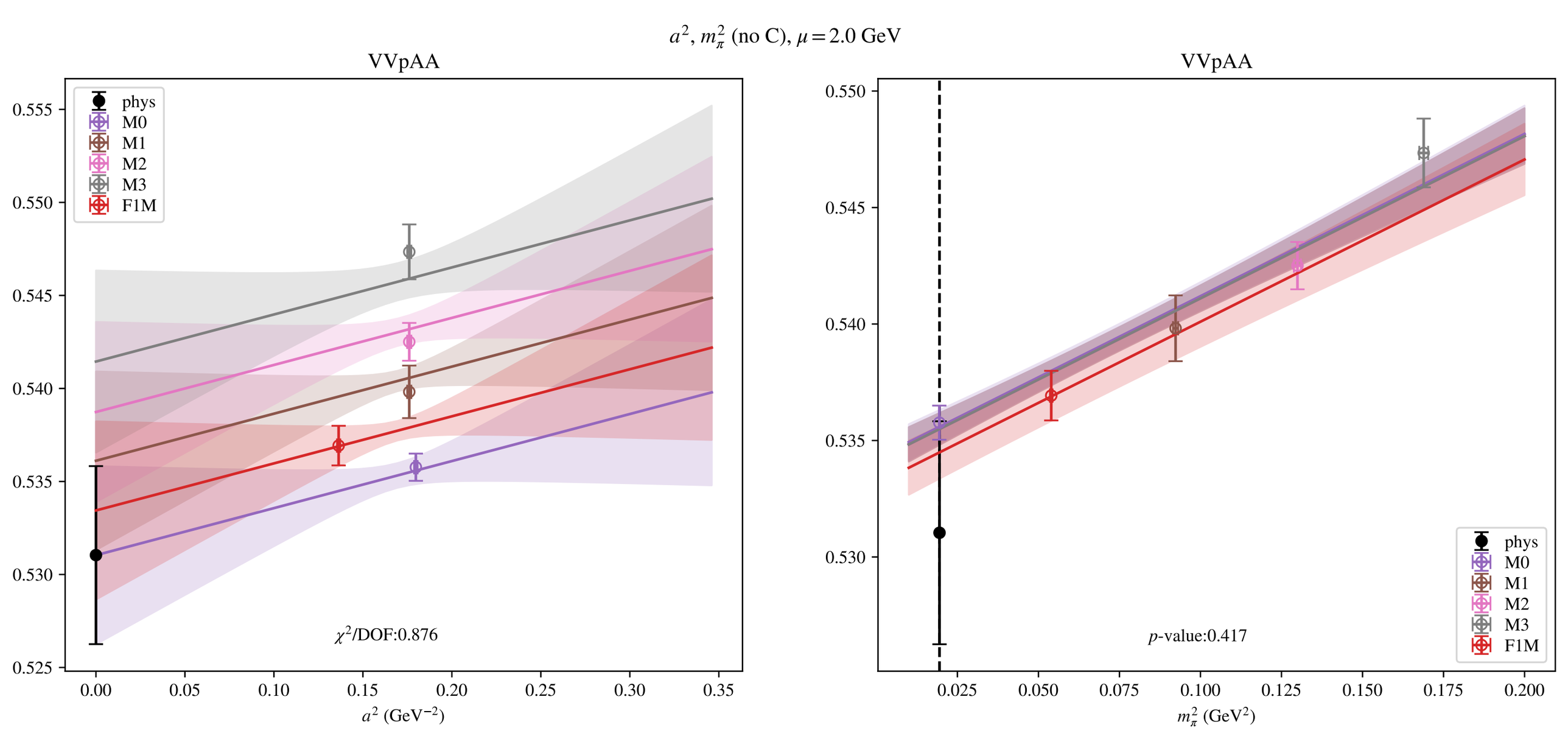
Table 2: Fit values of coefficients in $B = B_{phys} + \alpha a^2 + \beta \left(\frac{m_\pi^2}{f_\pi^2} - \frac{m_{\pi,PDG}^2}{f_\pi^2} \right) + \ldots$.

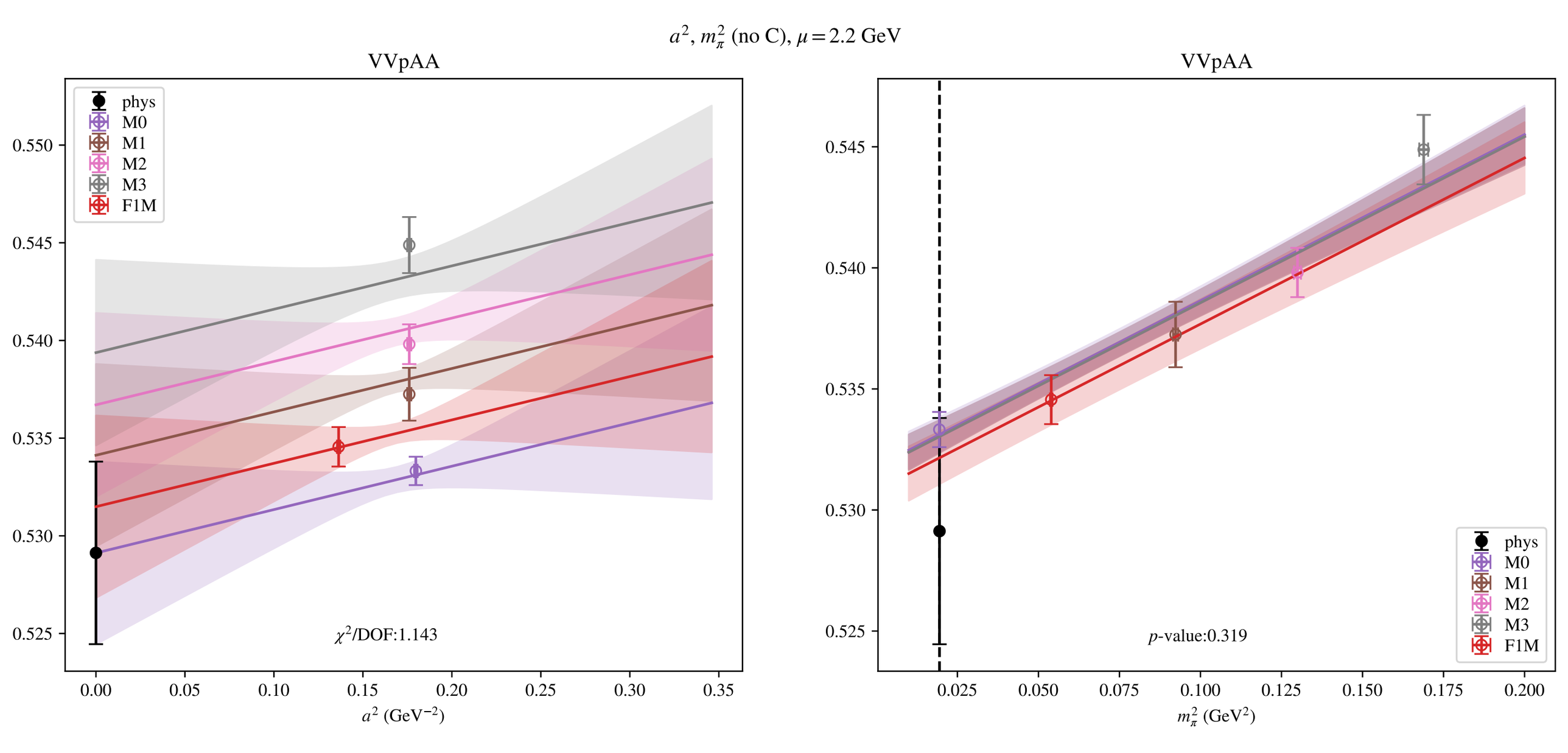

$a^2, m_\pi^2, \mu = 2.0$ GeV
VVpAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.555
0.550
0.545
0.540
0.535
0.530
0.525
χ^2/DOF:1.858
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVpAA
p-value:0.098
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

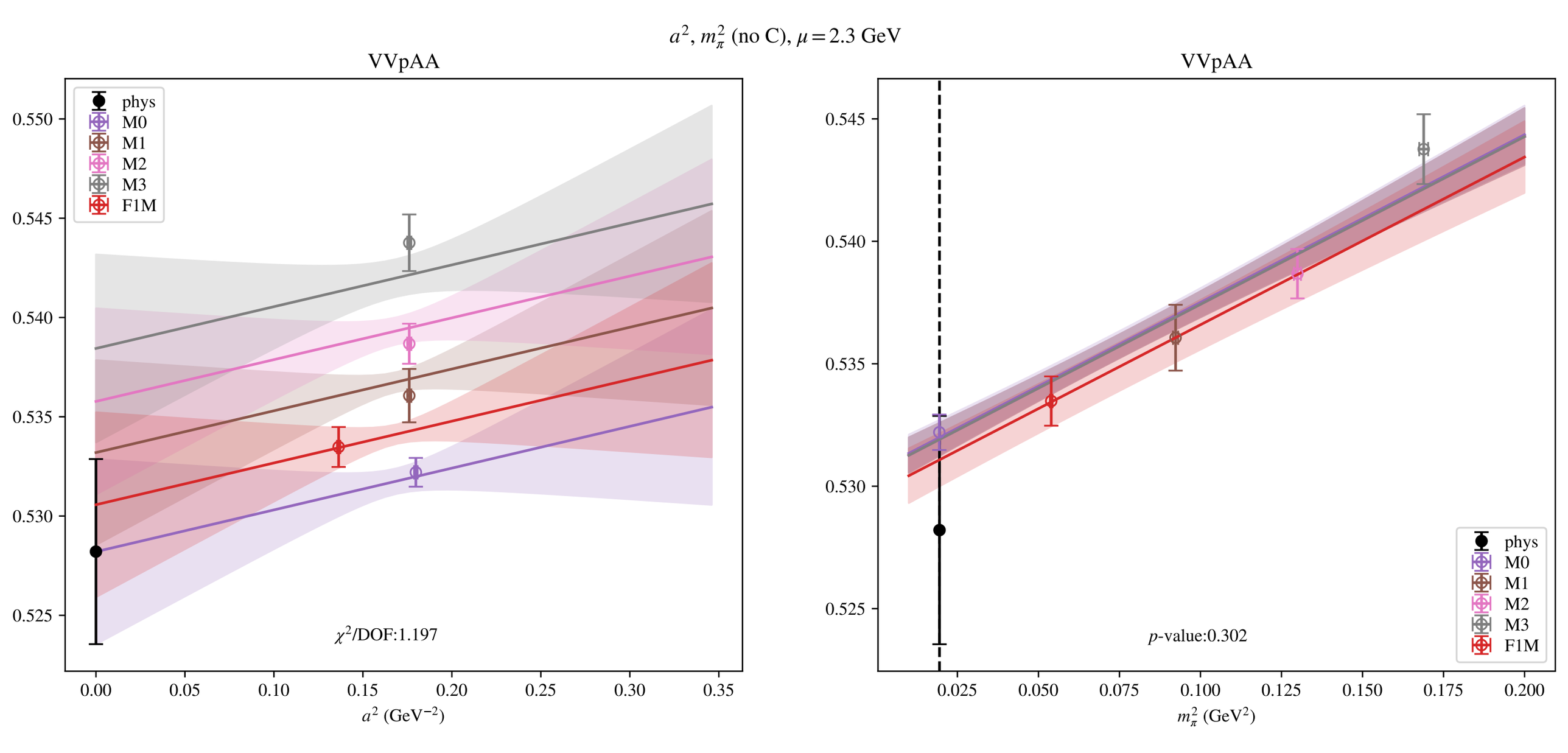

a^2, m_π^2, $\mu = 2.2$ GeV
VVpAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.555
0.550
0.545
0.540
0.535
0.530
0.525
χ^2/DOF:2.214
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVpAA
p-value:0.050
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

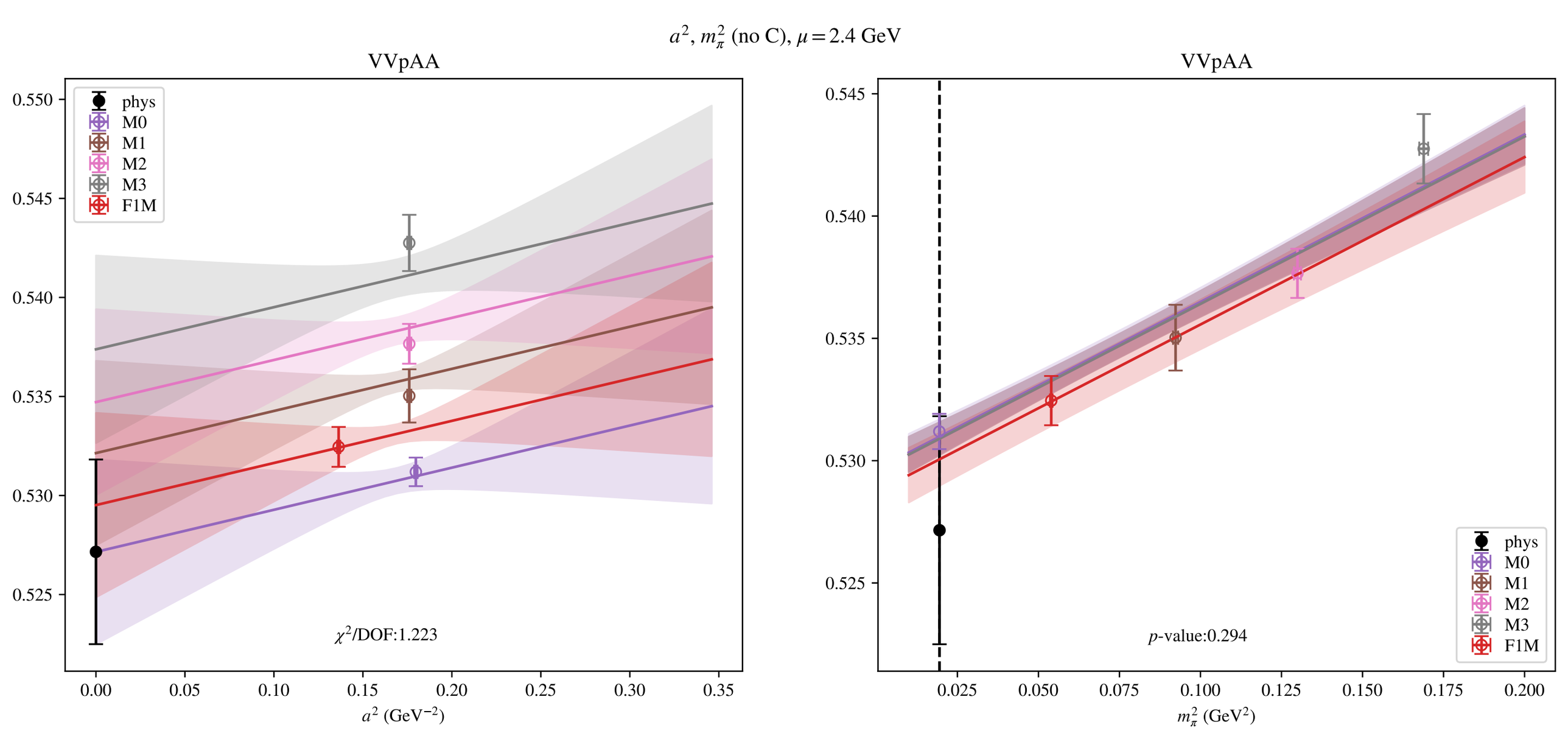

$a^2, m_\pi^2, \mu = 2.3$ GeV
VVpAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.555
0.550
0.545
0.540
0.535
0.530
0.525
0.520
χ^2/DOF:2.304
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVpAA
p-value:0.042
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

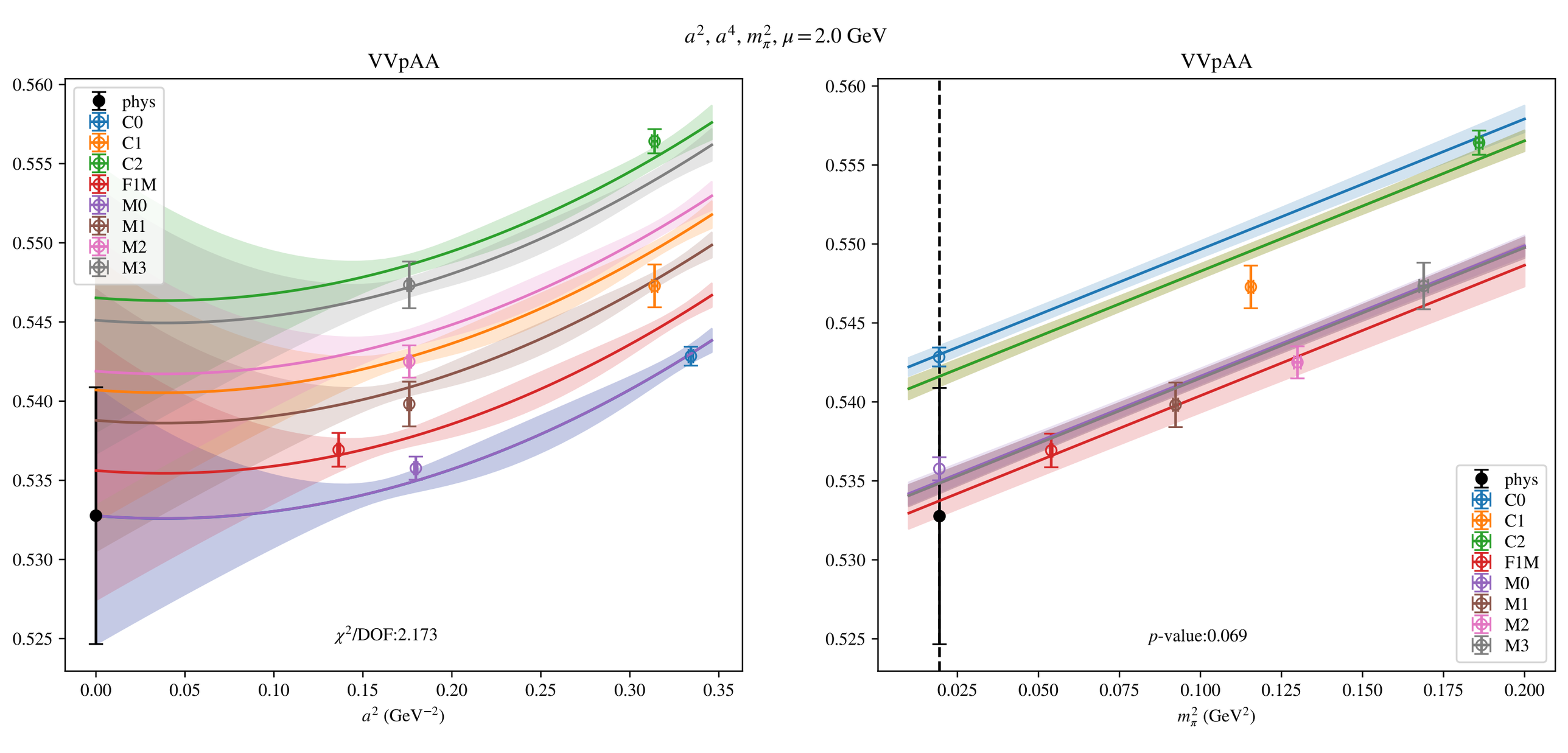

$a^2, m_\pi^2, \mu = 2.4$ GeV
VVpAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:2.348
a^2 (GeV^{-2})
VVpAA
p-value:0.039
m_π^2 (GeV^2)

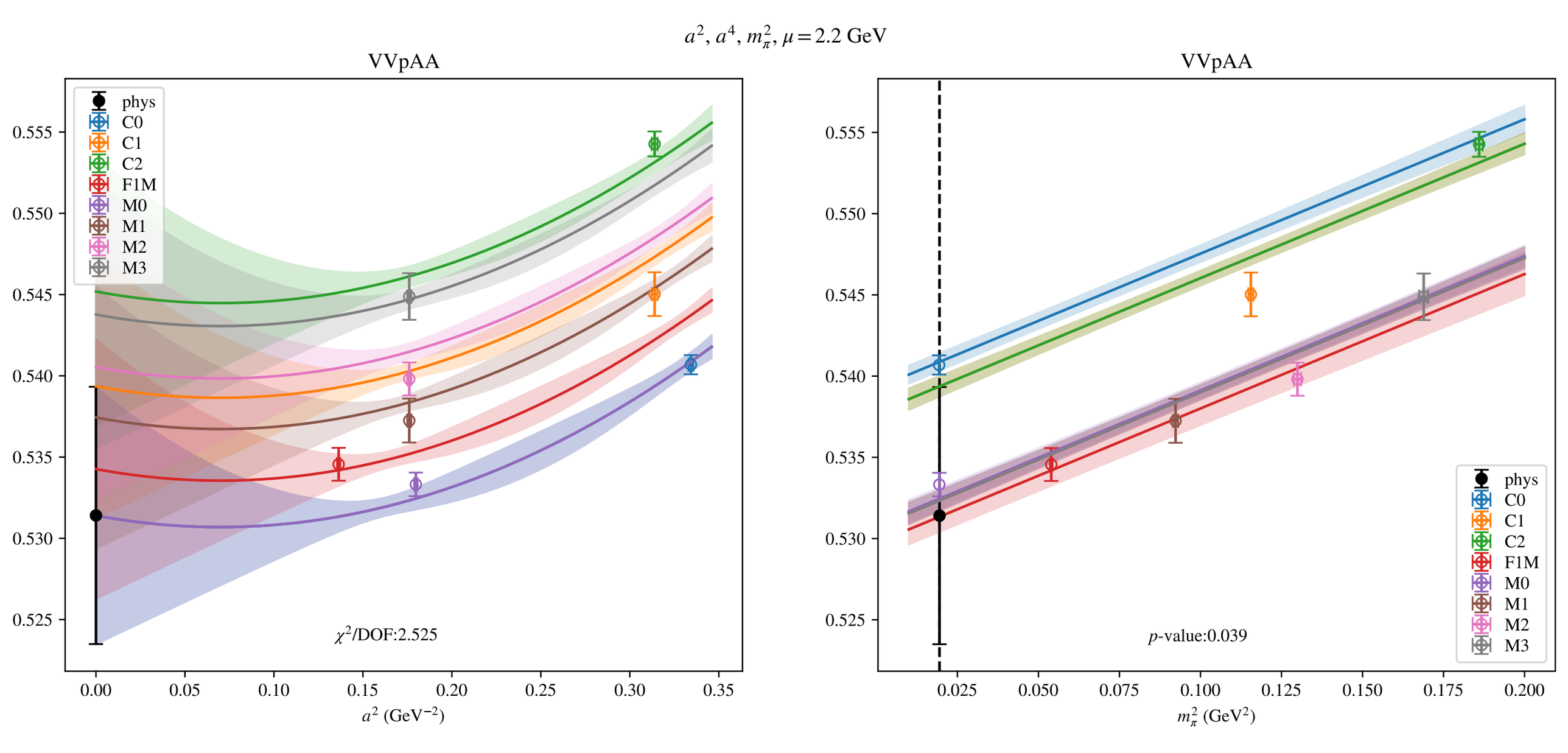

a^2, m_π^2 (no C), $\mu = 2.0$ GeV
VVpAA
phys
M0
M1
M2
M3
F1M
0.555
0.550
0.545
0.540
0.535
0.530
0.525
χ^2/DOF:0.876
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVpAA
0.550
0.545
0.540
0.535
0.530
p-value:0.417
phys
M0
M1
M2
M3
F1M
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

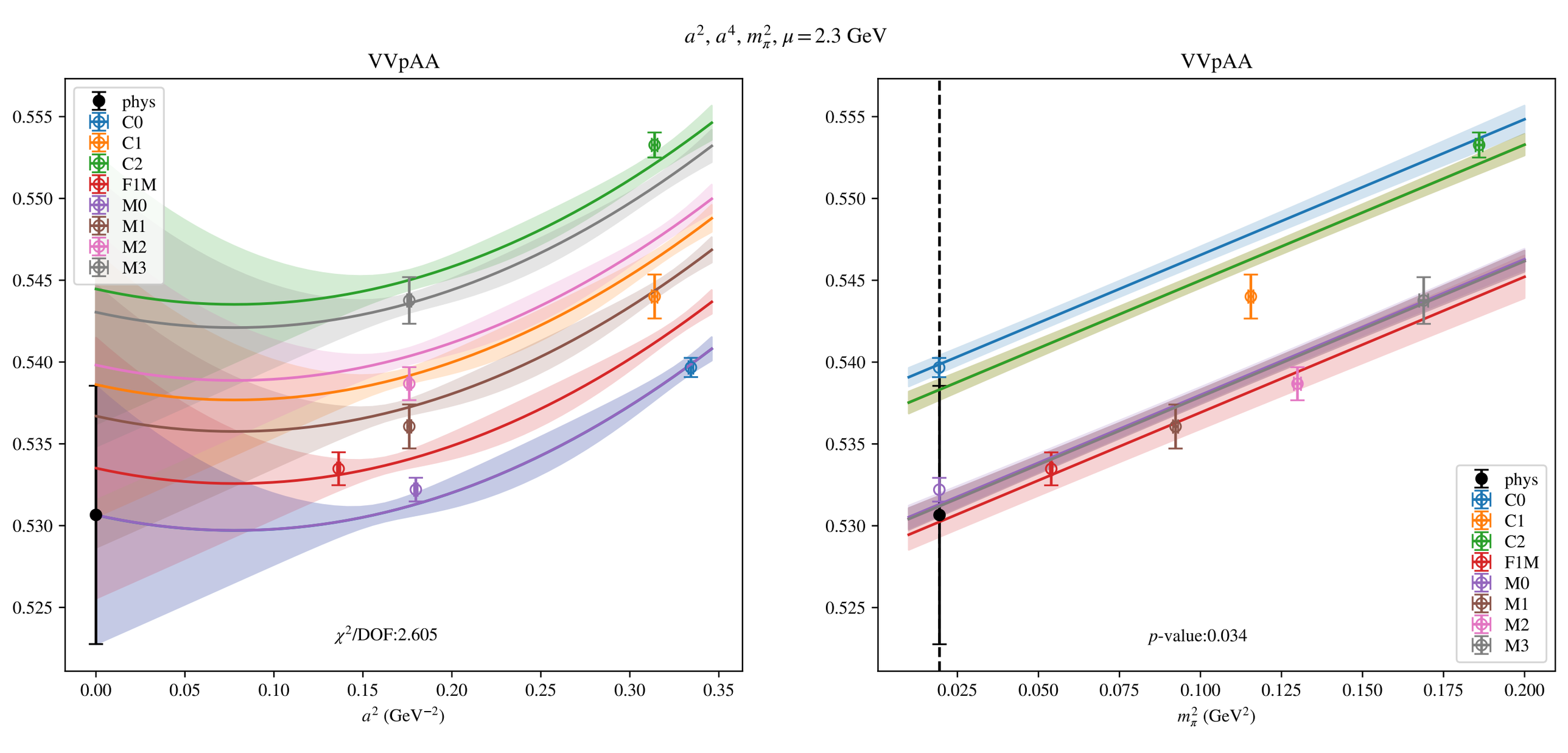

a^2, m_π^2 (no C), $\mu = 2.2$ GeV
VVpAA
phys
M0
M1
M2
M3
F1M
0.550
0.545
0.540
0.535
0.530
0.525
χ^2/DOF:1.143
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVpAA
0.545
0.540
0.535
0.530
0.525
p-value:0.319
phys
M0
M1
M2
M3
F1M
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)


a^2, m_π^2 (no C), $\mu = 2.3$ GeV
VVpAA
phys
M0
M1
M2
M3
F1M
0.550
0.545
0.540
0.535
0.530
0.525
χ^2/DOF:1.197
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVpAA
0.545
0.540
0.535
0.530
0.525
p-value:0.302
phys
M0
M1
M2
M3
F1M
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

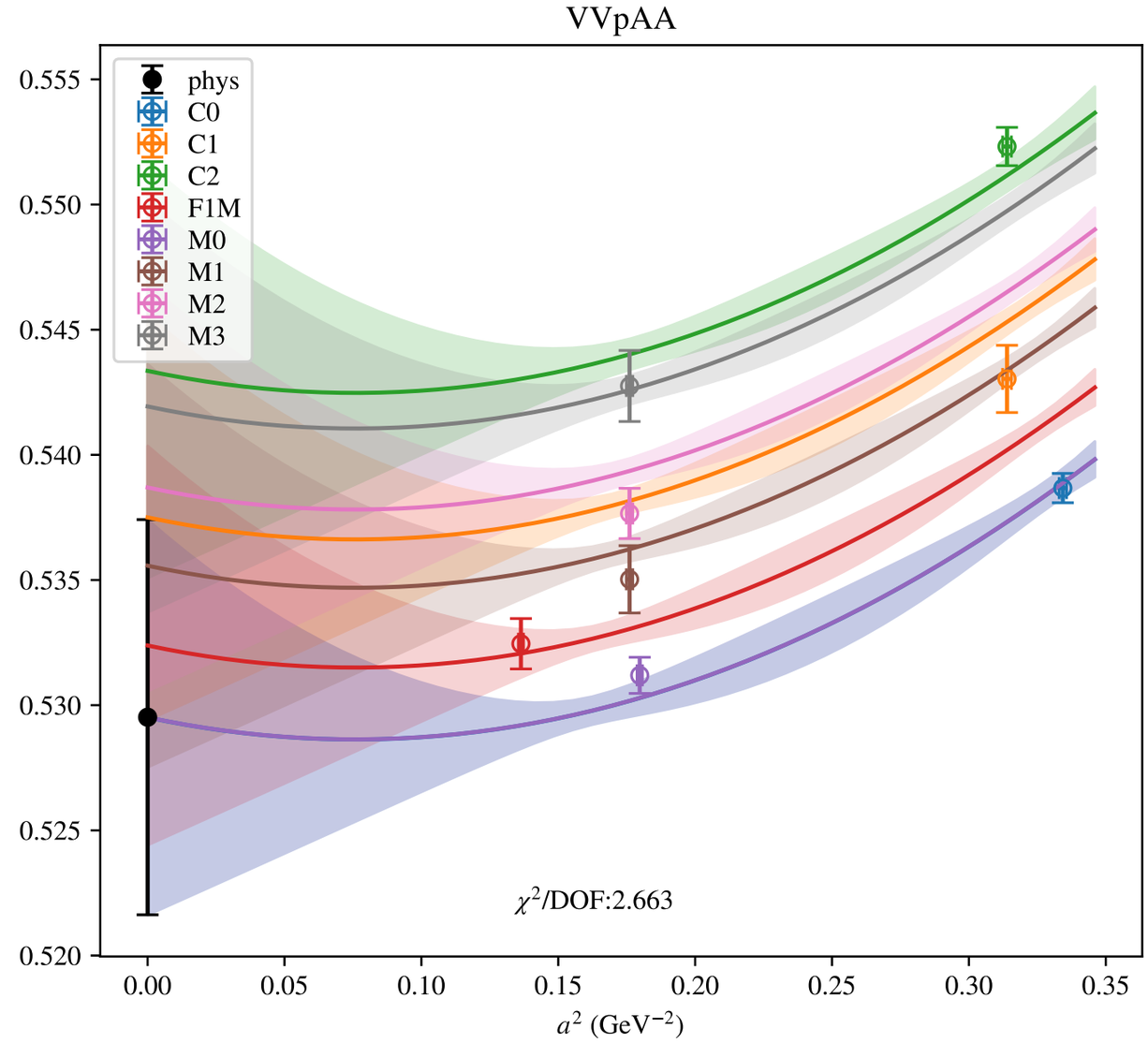

a^2, m_π^2 (no C), $\mu = 2.4$ GeV
VVpAA
phys
M0
M1
M2
M3
F1M
0.550
0.545
0.540
0.535
0.530
0.525
χ^2/DOF:1.223
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVpAA
0.545
0.540
0.535
0.530
0.525
p-value:0.294
phys
M0
M1
M2
M3
F1M
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

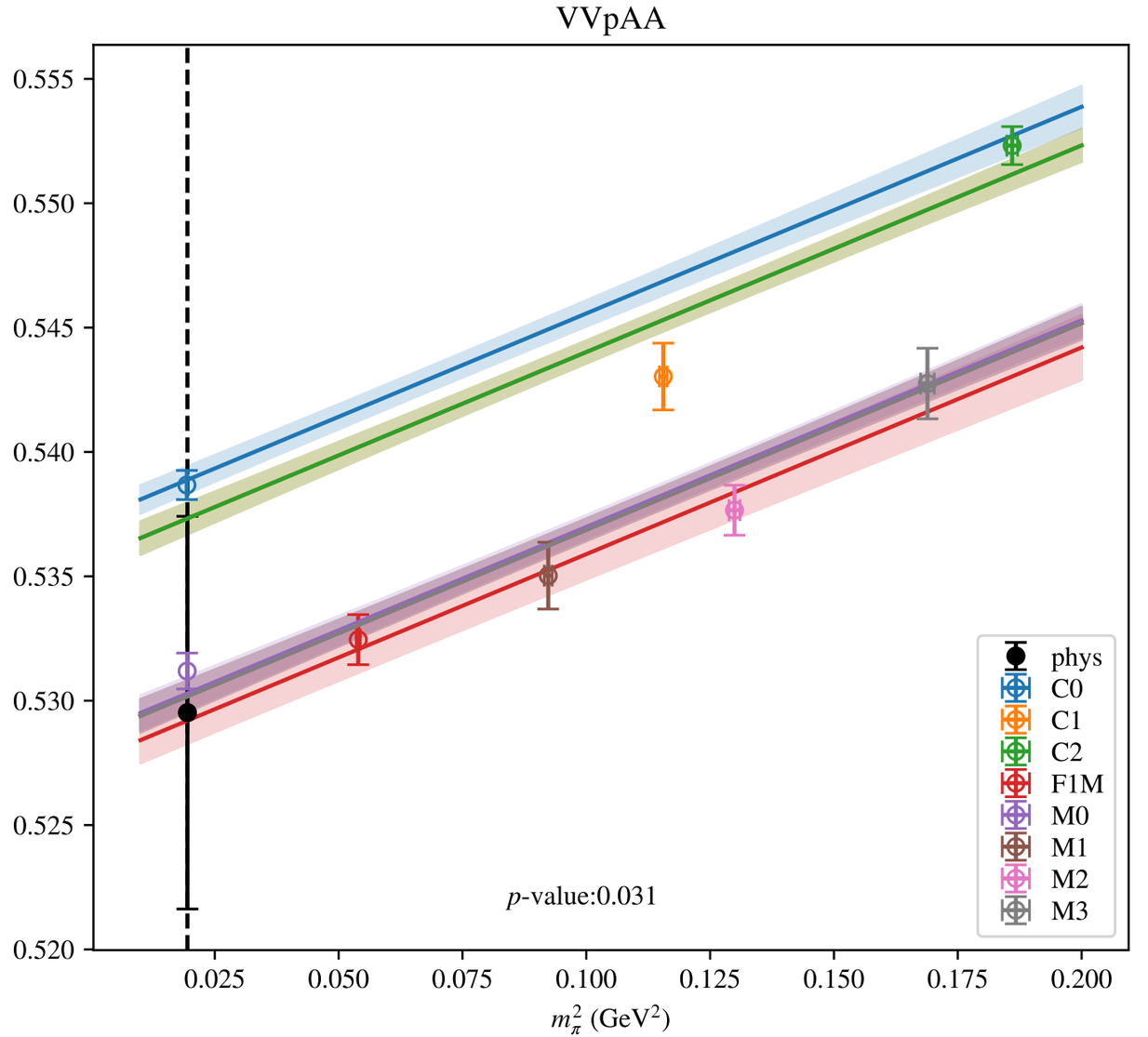

$a^2, a^4, m_\pi^2, \mu = 2.0$ GeV
VVpAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:2.173
a^2 (GeV^{-2})
VVpAA
p-value:0.069
m_π^2 (GeV^2)

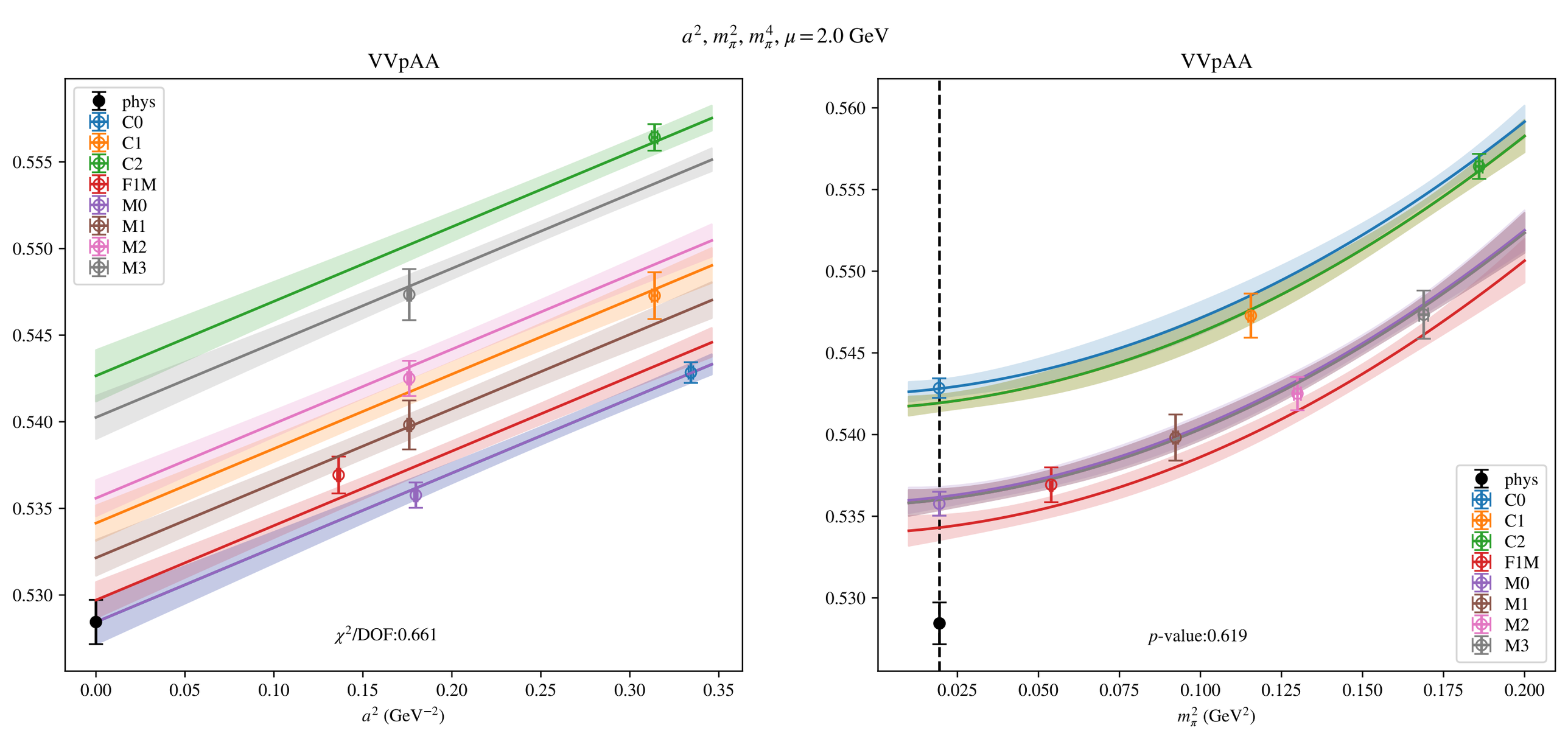

$a^2, a^4, m_\pi^2, \mu = 2.2$ GeV
VVpAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.555
0.550
0.545
0.540
0.535
0.530
0.525
χ^2/DOF:2.525
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVpAA
p-value:0.039
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)


$a^2, a^4, m_\pi^2, \mu = 2.3$ GeV
VVpAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.555
0.550
0.545
0.540
0.535
0.530
0.525
χ^2/DOF:2.605
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVpAA
p-value:0.034
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

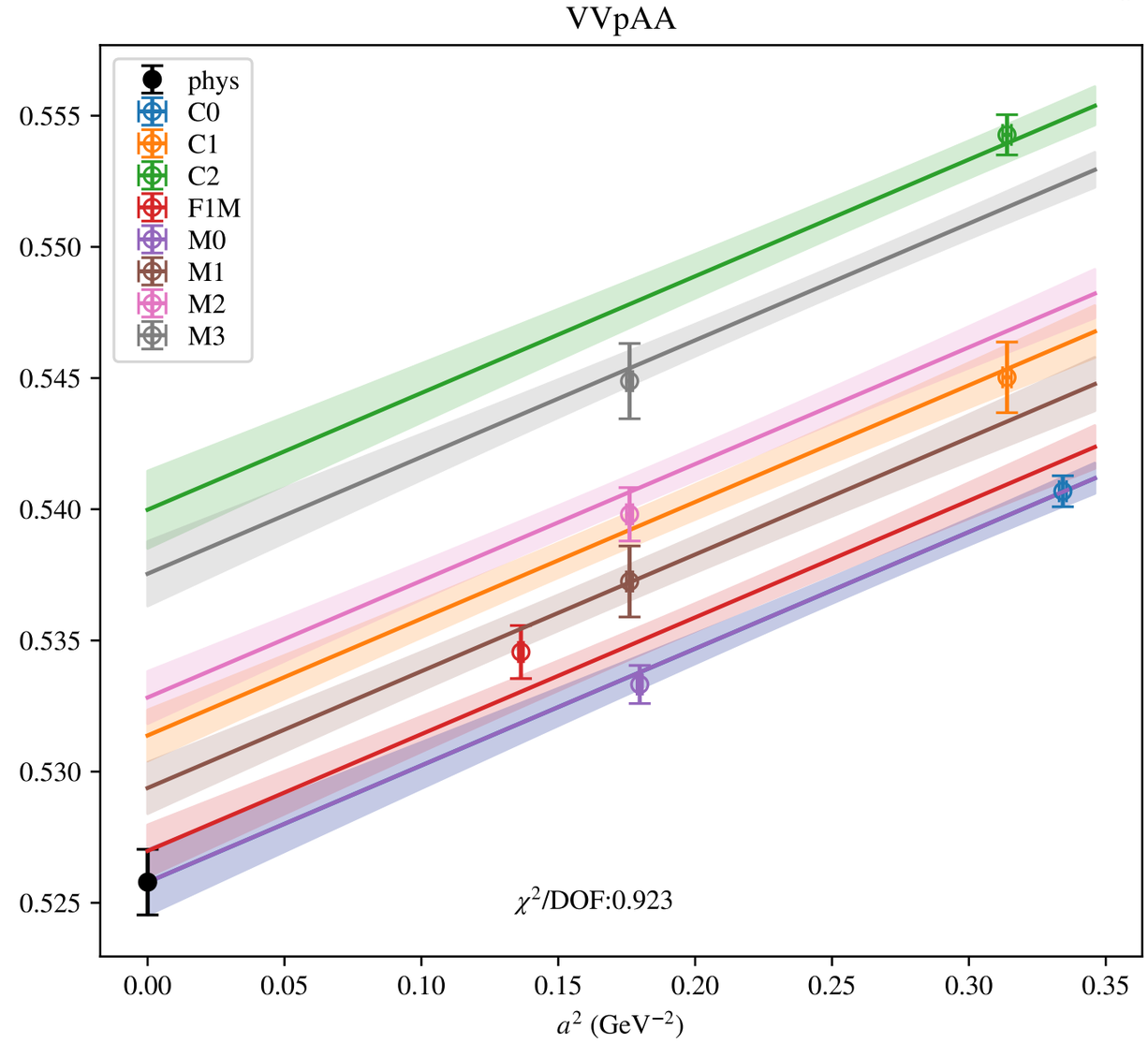
$a^2, a^4, m_\pi^2, \mu = 2.4$ GeV

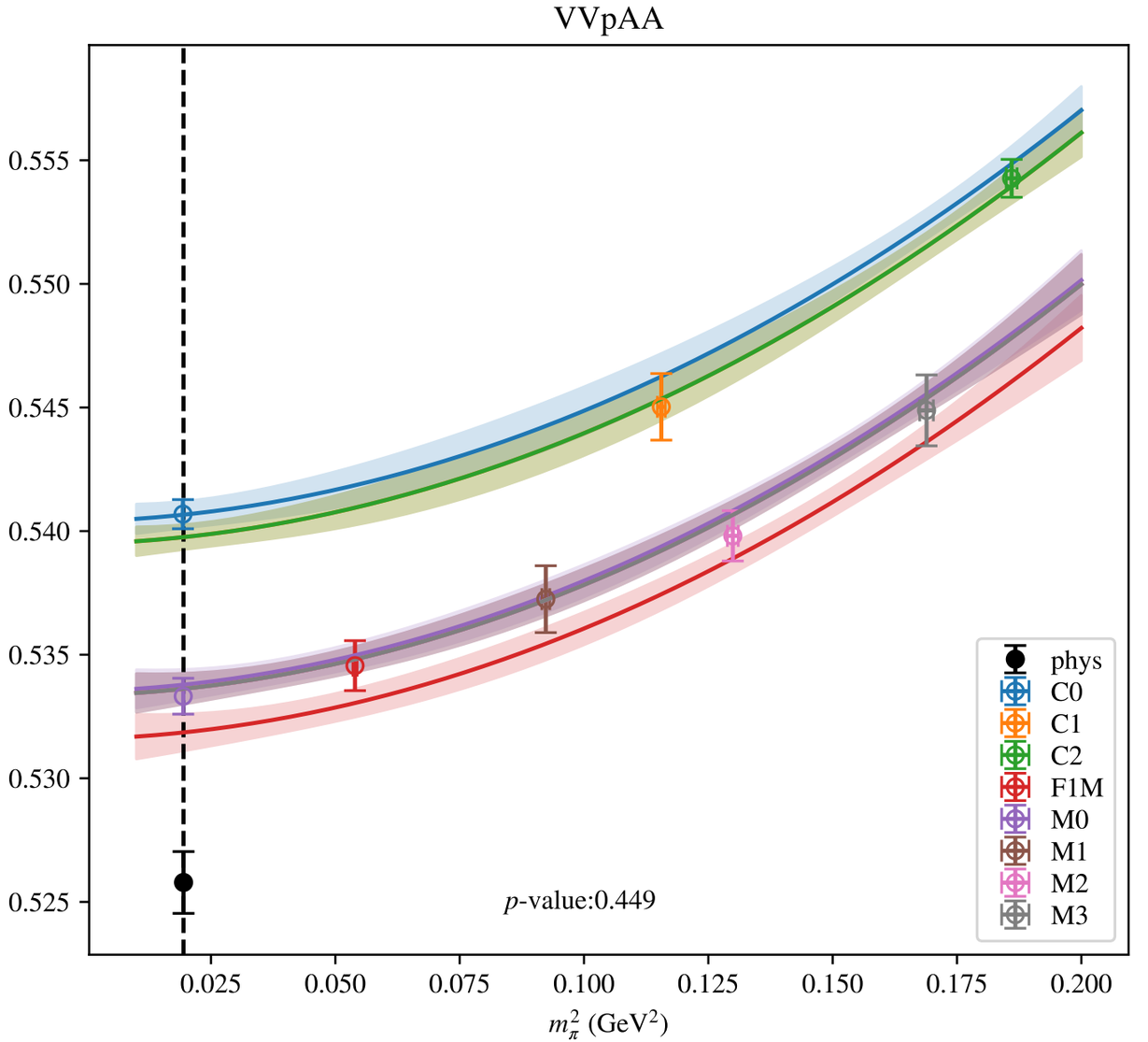


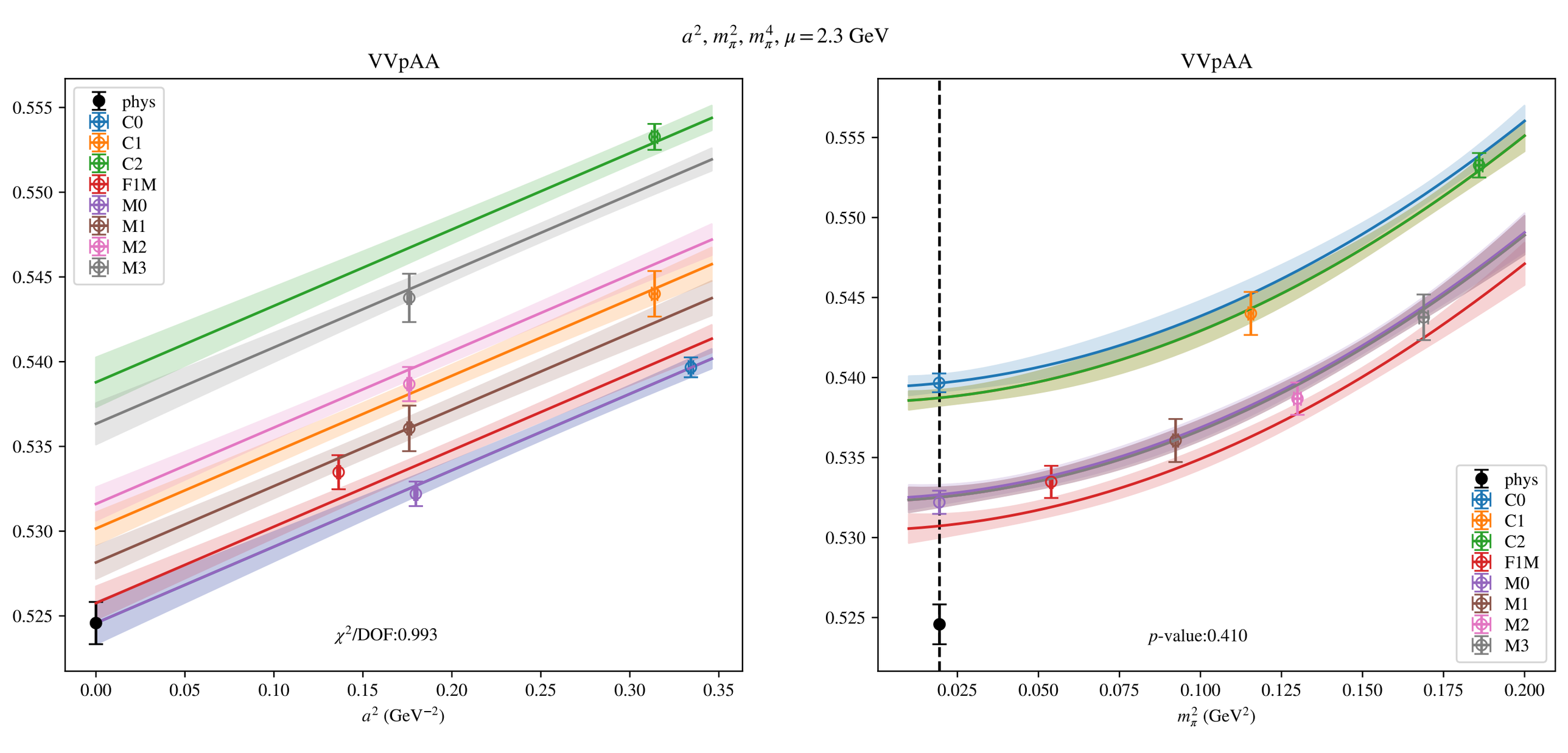



$a^2, m_\pi^2, m_\pi^4, \mu = 2.0$ GeV
VVpAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.555
0.550
0.545
0.540
0.535
0.530
χ^2/DOF:0.661
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVpAA
0.560
0.555
0.550
0.545
0.540
0.535
0.530
p-value:0.619
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
phys
C0
C1
C2
F1M
M0
M1
M2
M3

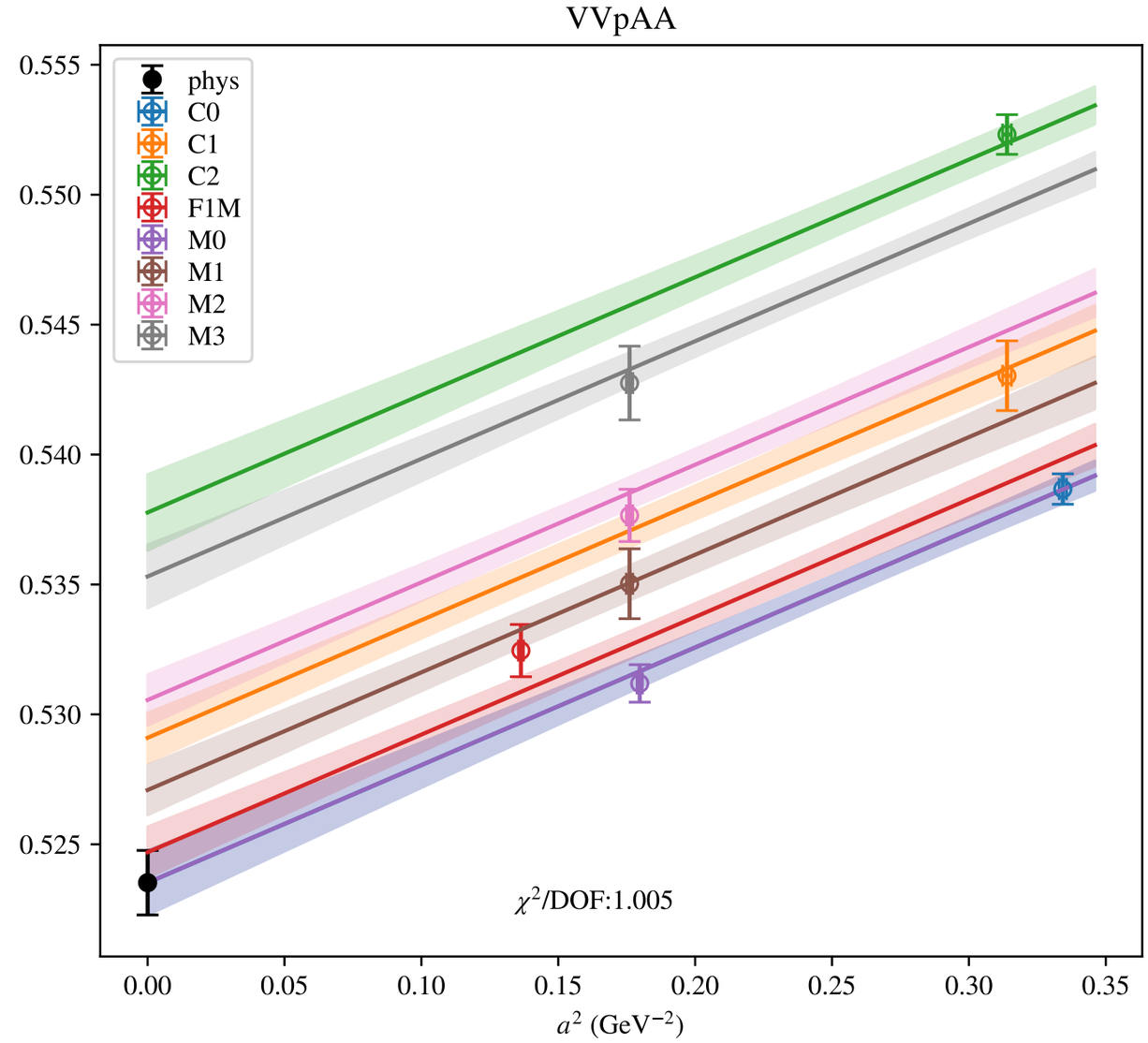
a^2, m_π^2, m_π^4, $\mu = 2.2$ GeV

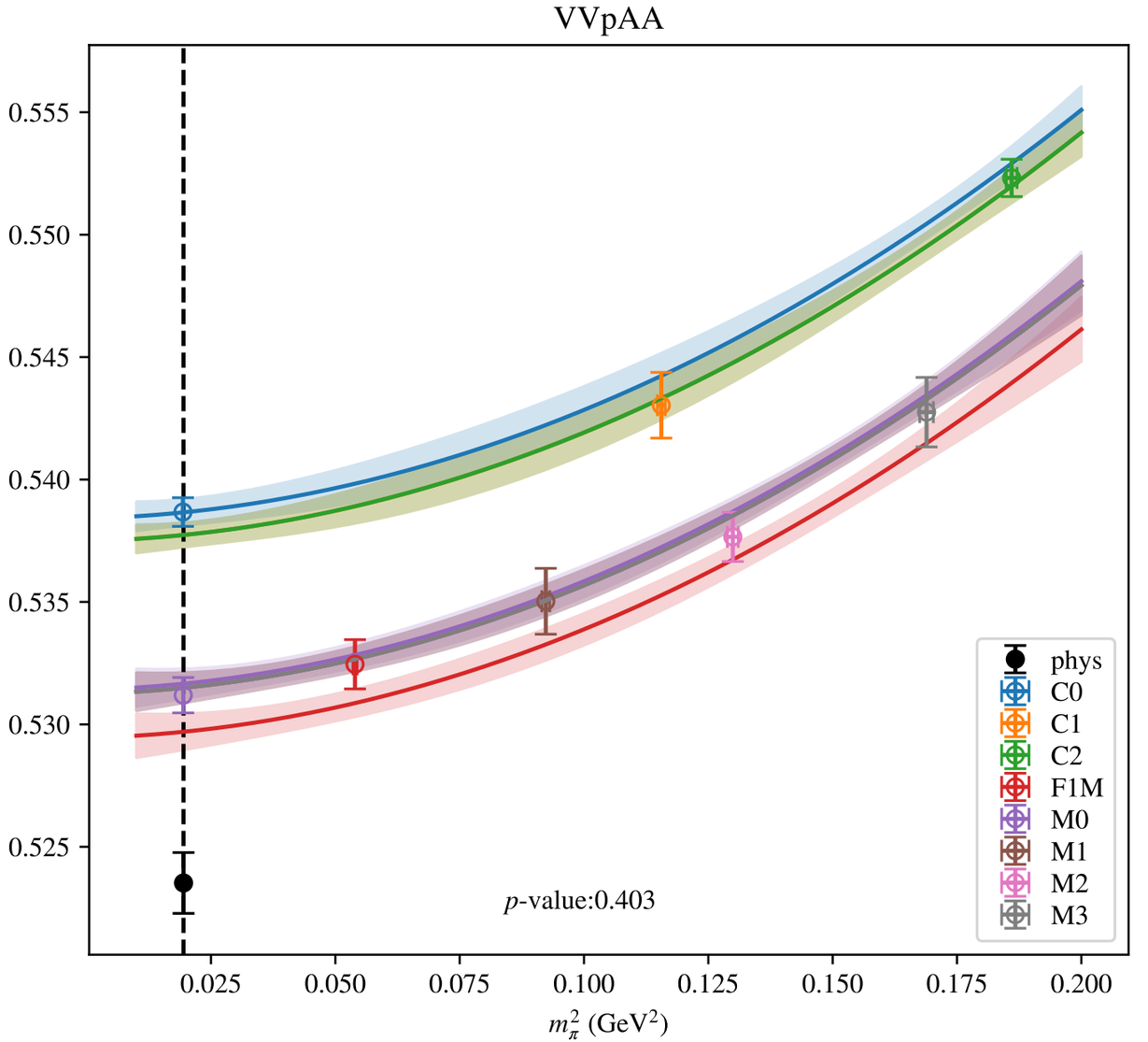





$a^2, m_\pi^2, m_\pi^4, \mu = 2.3$ GeV
VVpAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.555
0.550
0.545
0.540
0.535
0.530
0.525
χ^2/DOF:0.993
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVpAA
0.555
0.550
0.545
0.540
0.535
0.530
0.525
p-value:0.410
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
phys
C0
C1
C2
F1M
M0
M1
M2
M3

a^2, m_π^2, m_π^4, $\mu = 2.4$ GeV





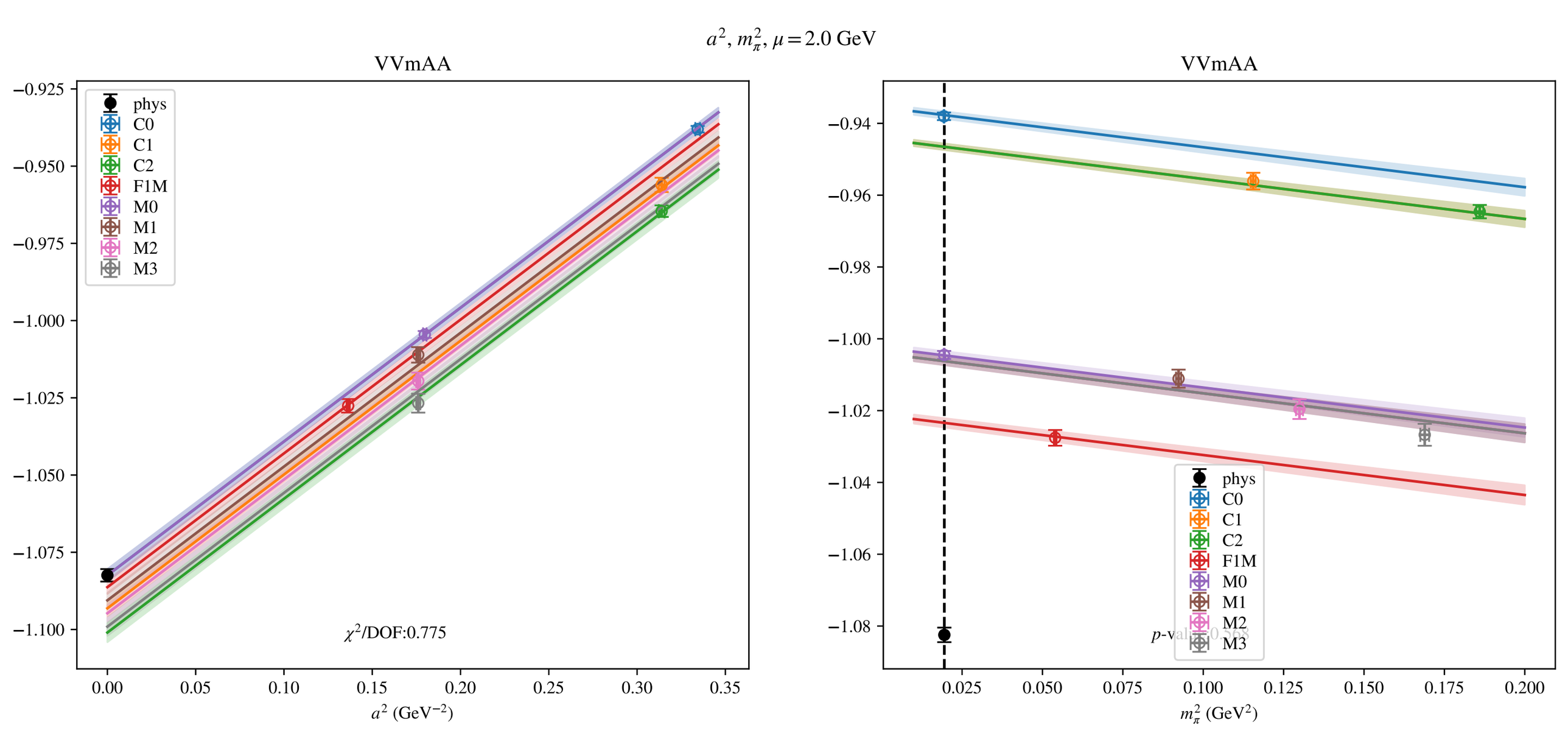
2 B_2

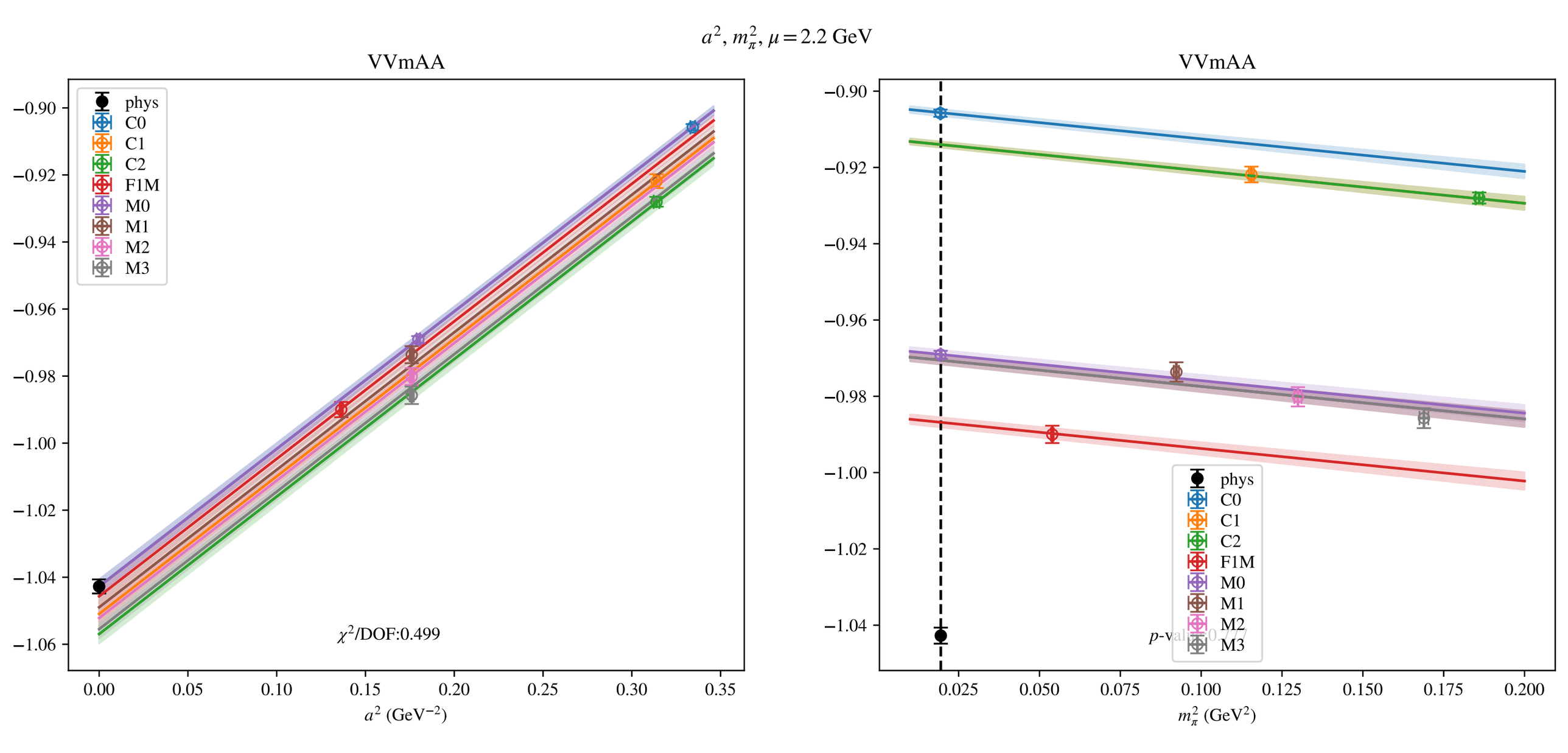
μ (GeV)	a^2, m_π^2	a^2, m_π^2 (no C)	a^2, a^4, m_π^2	a^2, m_π^2, m_π^4
2.0	**-1.082(20)**: 0.775 (0.568)	**-1.083(85)**: 1.461 (0.232)	**-1.08(13)**: 0.917 (0.453)	**-1.083(19)**: 0.839 (0.5)
2.2	**-1.042(20)**: 0.499 (0.777)	**-1.043(83)**: 1.153 (0.316)	**-1.04(12)**: 0.611 (0.654)	**-1.043(19)**: 0.524 (0.718)
2.3	**-1.025(19)**: 0.588 (0.709)	**-1.026(81)**: 1.295 (0.274)	**-1.03(12)**: 0.713 (0.583)	**-1.026(18)**: 0.623 (0.646)
2.4	**-1.012(19)**: 0.829 (0.529)	**-1.008(79)**: 1.935 (0.144)	**-1.00(12)**: 1.026 (0.392)	**-1.012(18)**: 0.765 (0.548)

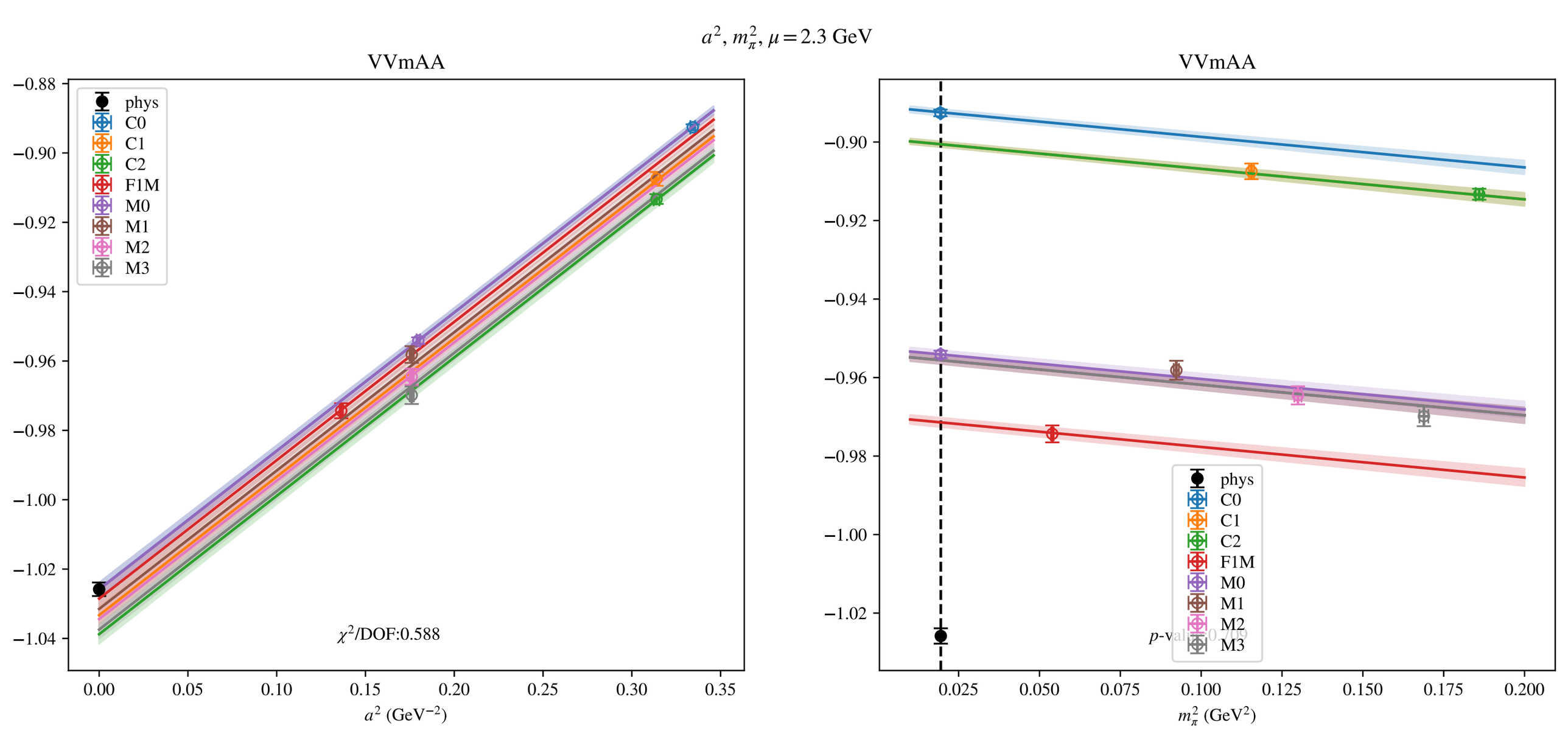
Table 3: Physical point value from chiral and continuum extrapolation at renormalisation scale μ. Entries are **value(error)**: χ^2/DOF (p-value).

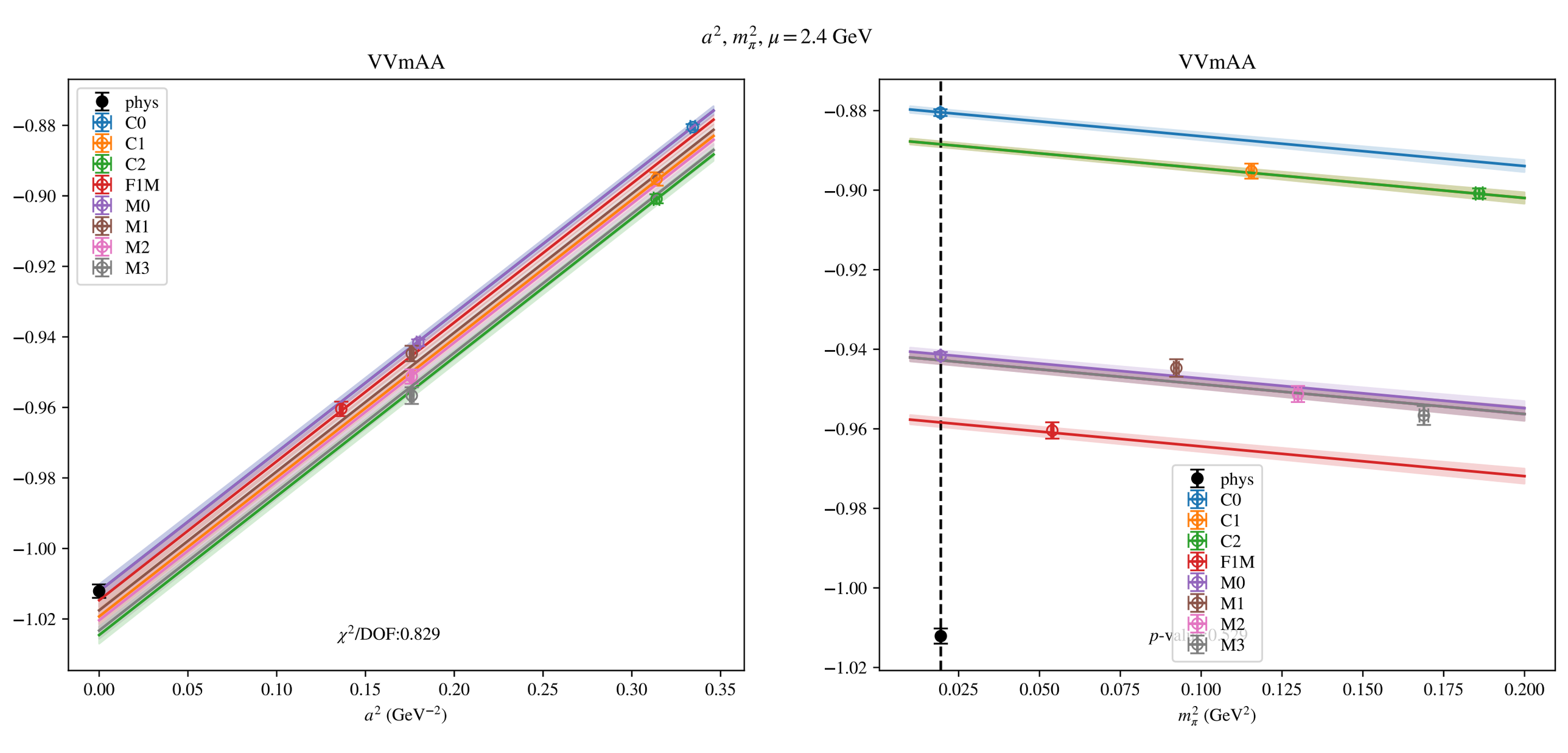
μ (GeV)		a^2, m_π^2	a^2, m_π^2 (no C)	a^2, a^4, m_π^2	a^2, m_π^2, m_π^4
2.0	α	-0.400(43)	-0.40(42)	-0.4(10)	-0.401(46)
	β	0.00174(15)	0.00194(25)	0.00176(15)	0.00117(65)
2.2	α	-0.393(43)	-0.39(41)	-0.4(10)	-0.394(45)
	β	0.00139(13)	0.00147(23)	0.00139(13)	0.00091(68)
2.3	α	-0.388(43)	-0.39(41)	-0.4(10)	-0.390(44)
	β	0.00128(13)	0.00139(22)	0.00129(13)	0.00080(67)
2.4	α	-0.389(43)	-0.37(41)	-0.3(10)	-0.391(45)
	β	0.00125(11)	0.00132(20)	0.00124(12)	0.00053(62)

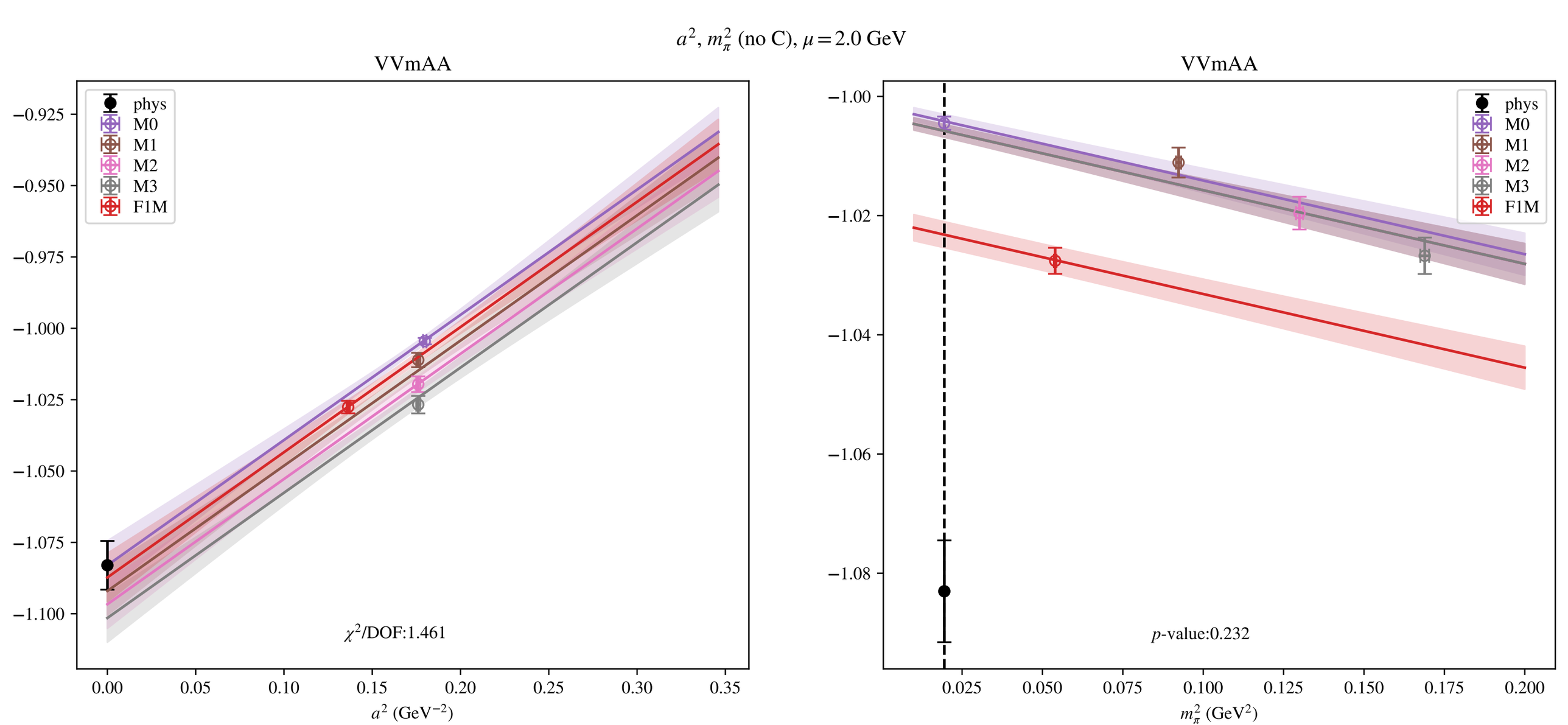
Table 4: Fit values of coefficients in $B = B_{phys} + \alpha a^2 + \beta \left(\frac{m_\pi^2}{f_\pi^2} - \frac{m_{\pi,PDG}^2}{f_\pi^2} \right) + \ldots$.

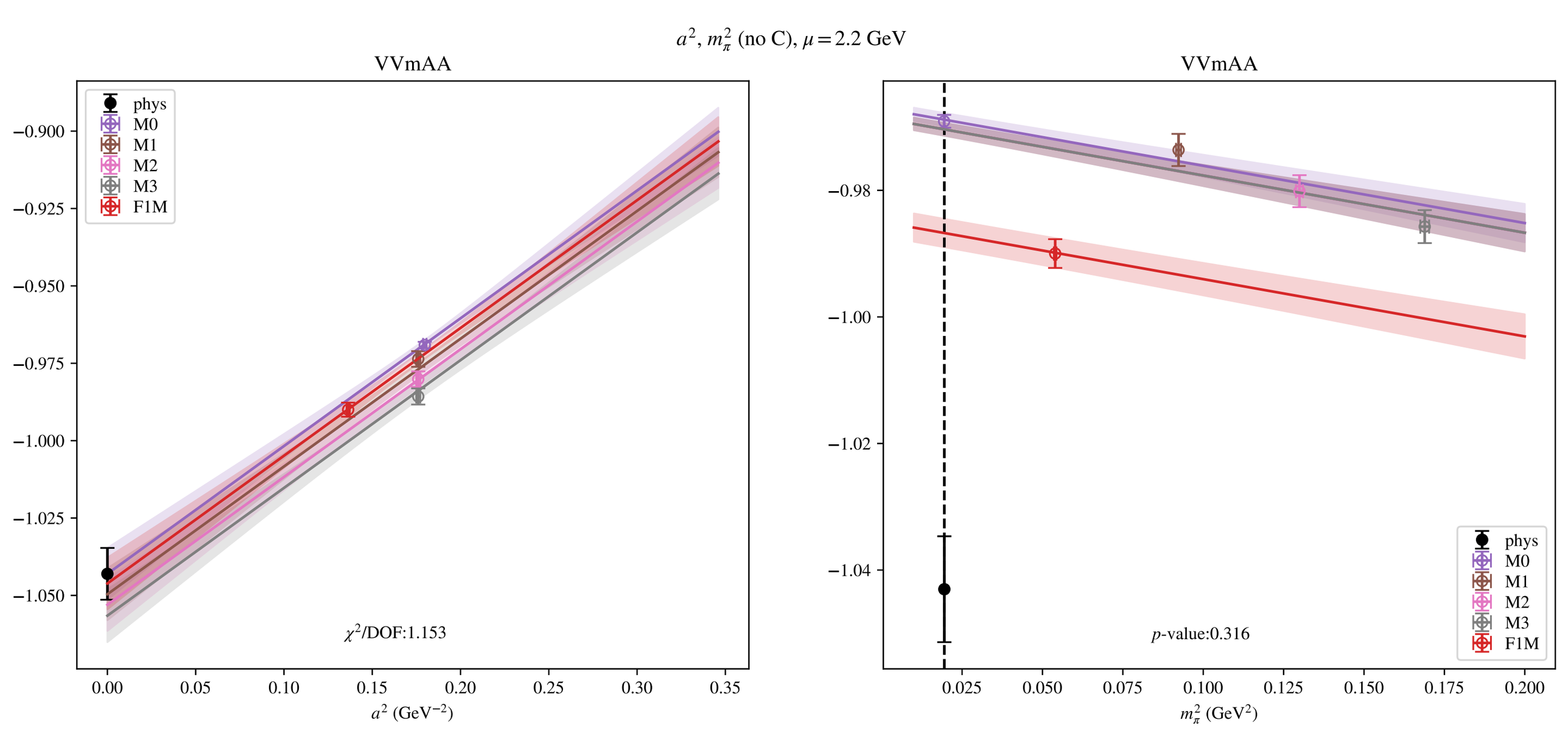

a^2, m_π^2, $\mu = 2.0$ GeV
VVmAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:0.775
a^2 (GeV^{-2})
VVmAA
m_π^2 (GeV^2)
p-value: 0.368

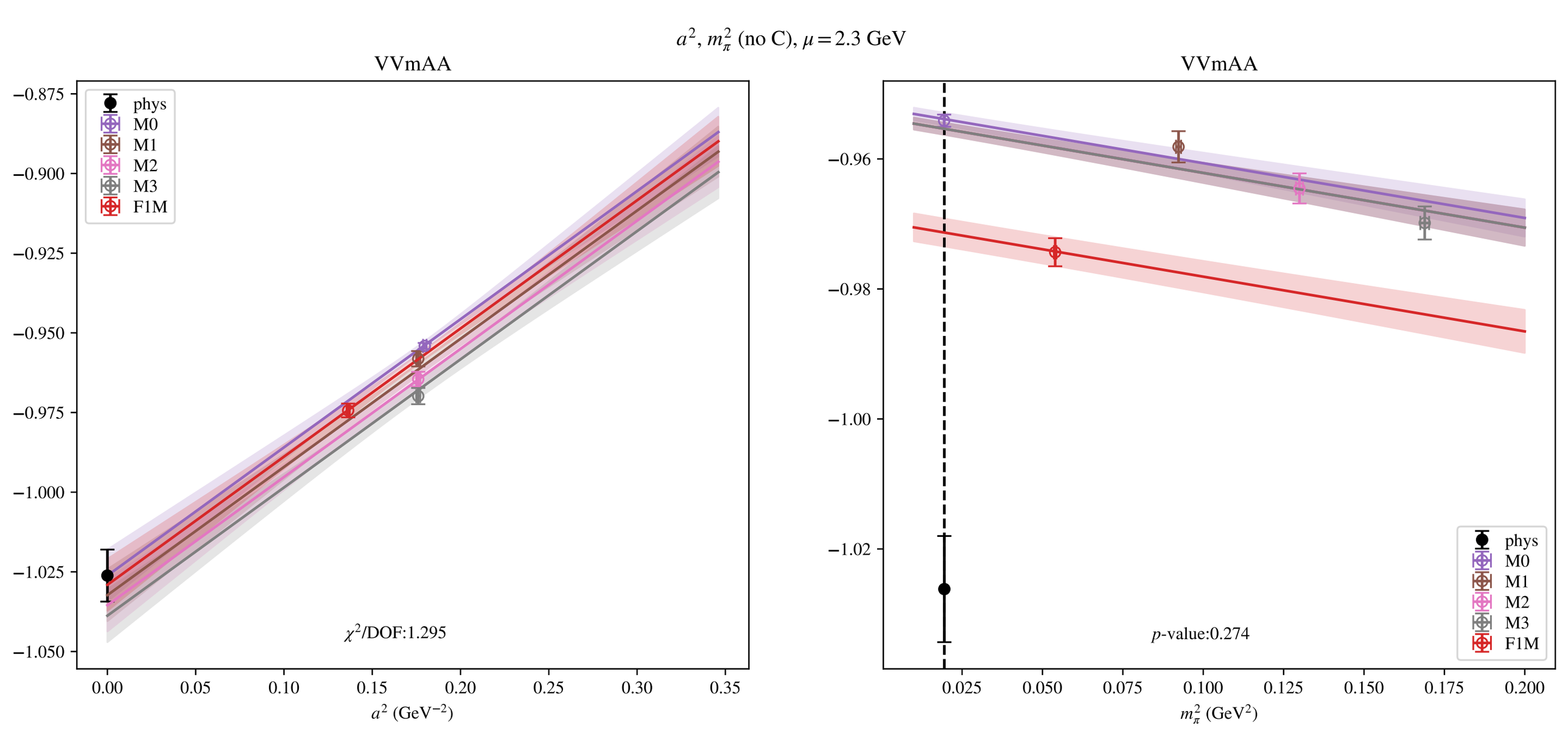

$a^2, m_\pi^2, \mu = 2.2$ GeV
VVmAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
−0.90
−0.92
−0.94
−0.96
−0.98
−1.00
−1.02
−1.04
−1.06
χ^2/DOF:0.499
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVmAA
−0.90
−0.92
−0.94
−0.96
−0.98
−1.00
−1.02
−1.04
phys
C0
C1
C2
F1M
M0
M1
M2
M3
p-val
0.777
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

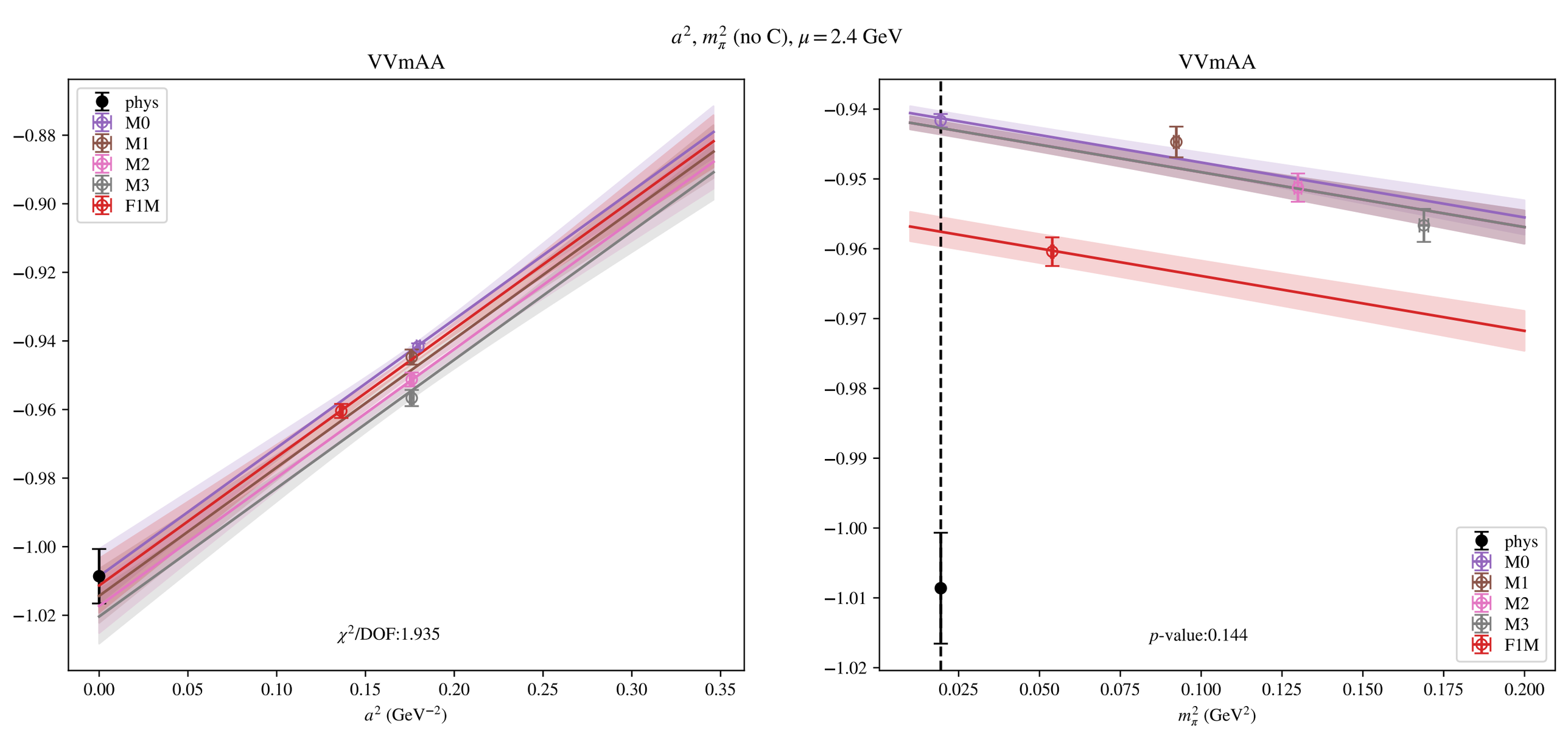

$a^2, m_\pi^2, \mu = 2.3$ GeV
VVmAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:0.588
a^2 (GeV^{-2})
VVmAA
p-val: 0.709
m_π^2 (GeV^2)

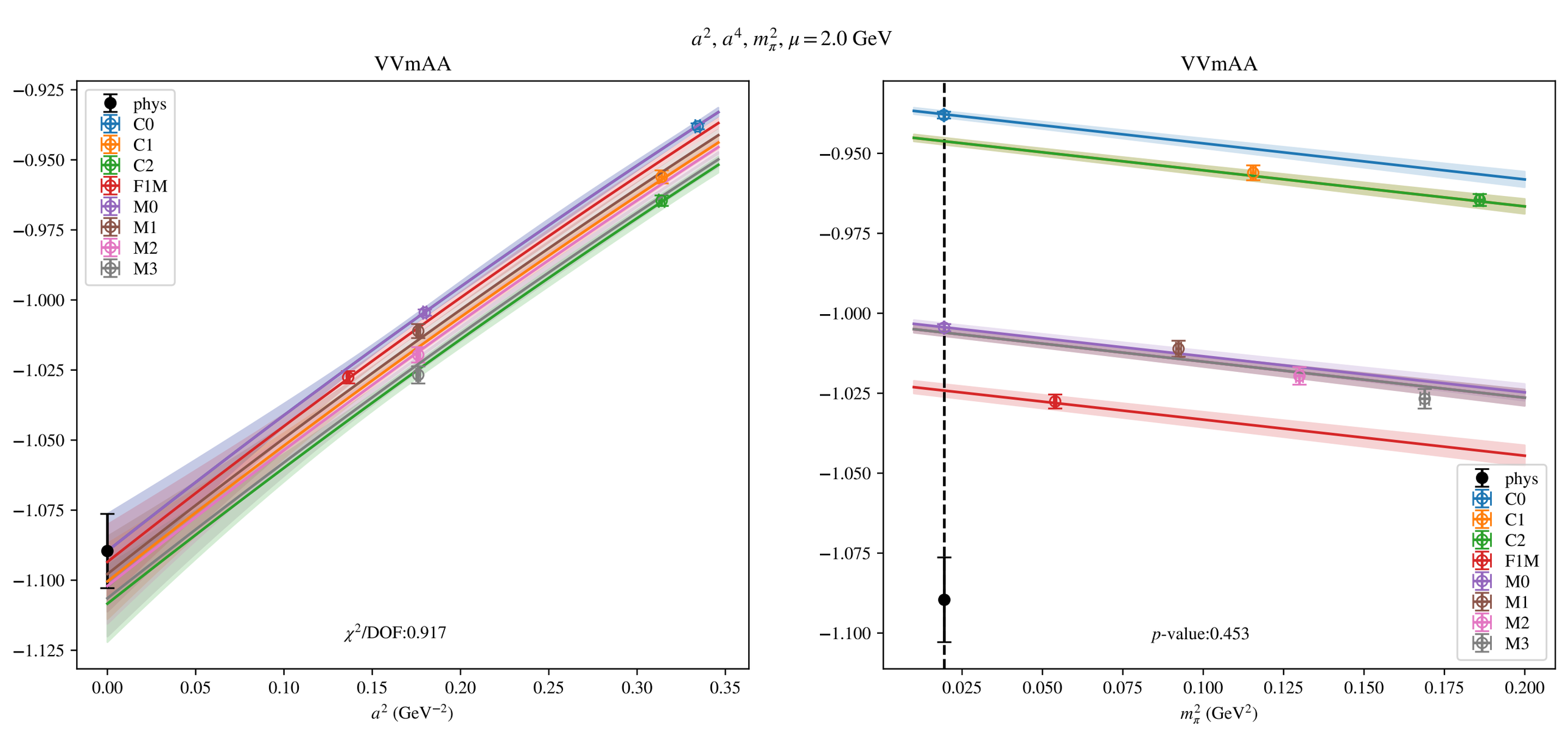

$a^2, m_\pi^2, \mu = 2.4$ GeV
VVmAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
−0.88
−0.90
−0.92
−0.94
−0.96
−0.98
−1.00
−1.02
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
χ^2/DOF:0.829
VVmAA
−0.88
−0.90
−0.92
−0.94
−0.96
−0.98
−1.00
−1.02
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
phys
C0
C1
C2
F1M
M0
M1
M2
M3
p-val: 0.529

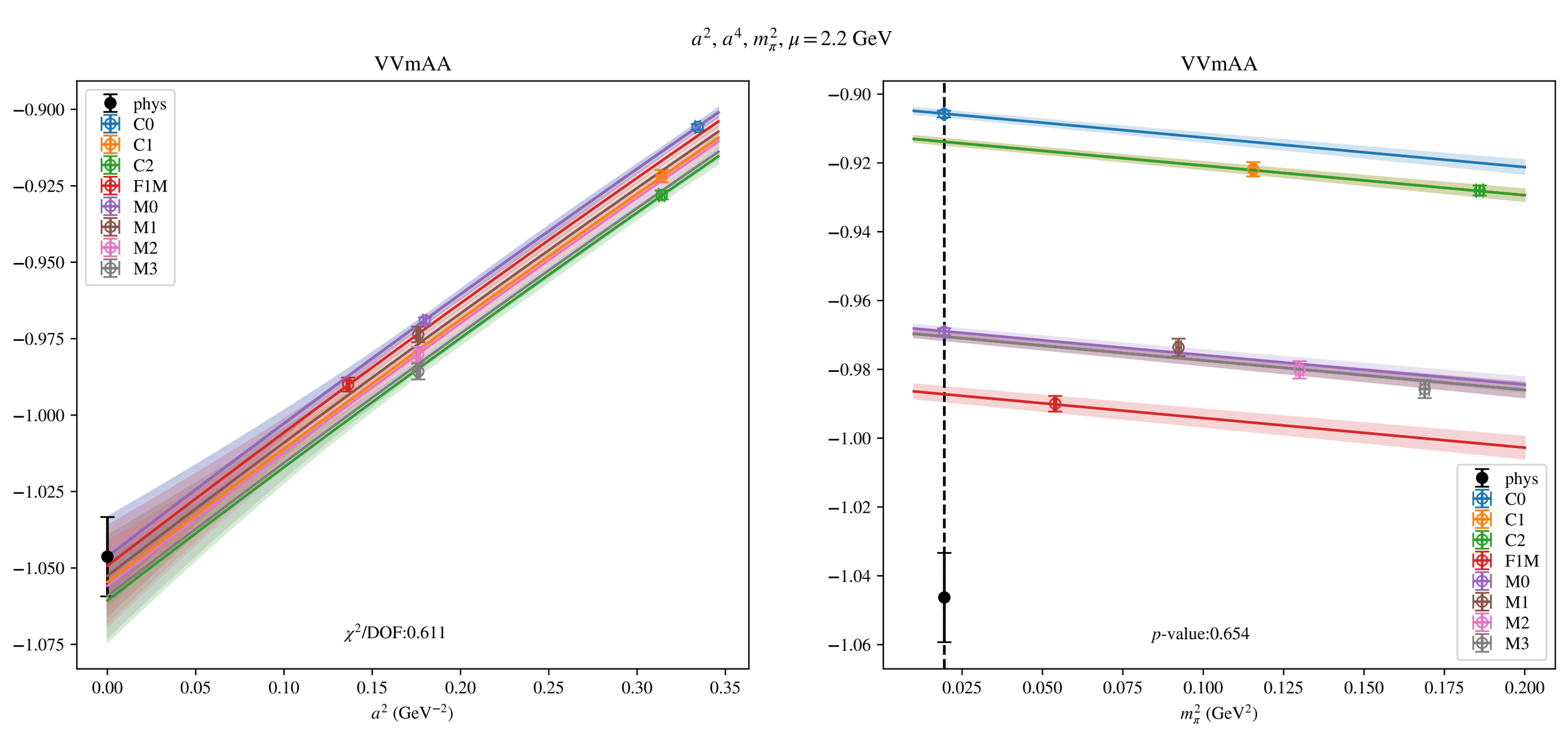

a^2, m_π^2 (no C), $\mu = 2.0$ GeV
VVmAA
phys
M0
M1
M2
M3
F1M
−0.925
−0.950
−0.975
−1.000
−1.025
−1.050
−1.075
−1.100
χ^2/DOF:1.461
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVmAA
phys
M0
M1
M2
M3
F1M
−1.00
−1.02
−1.04
−1.06
−1.08
p-value:0.232
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

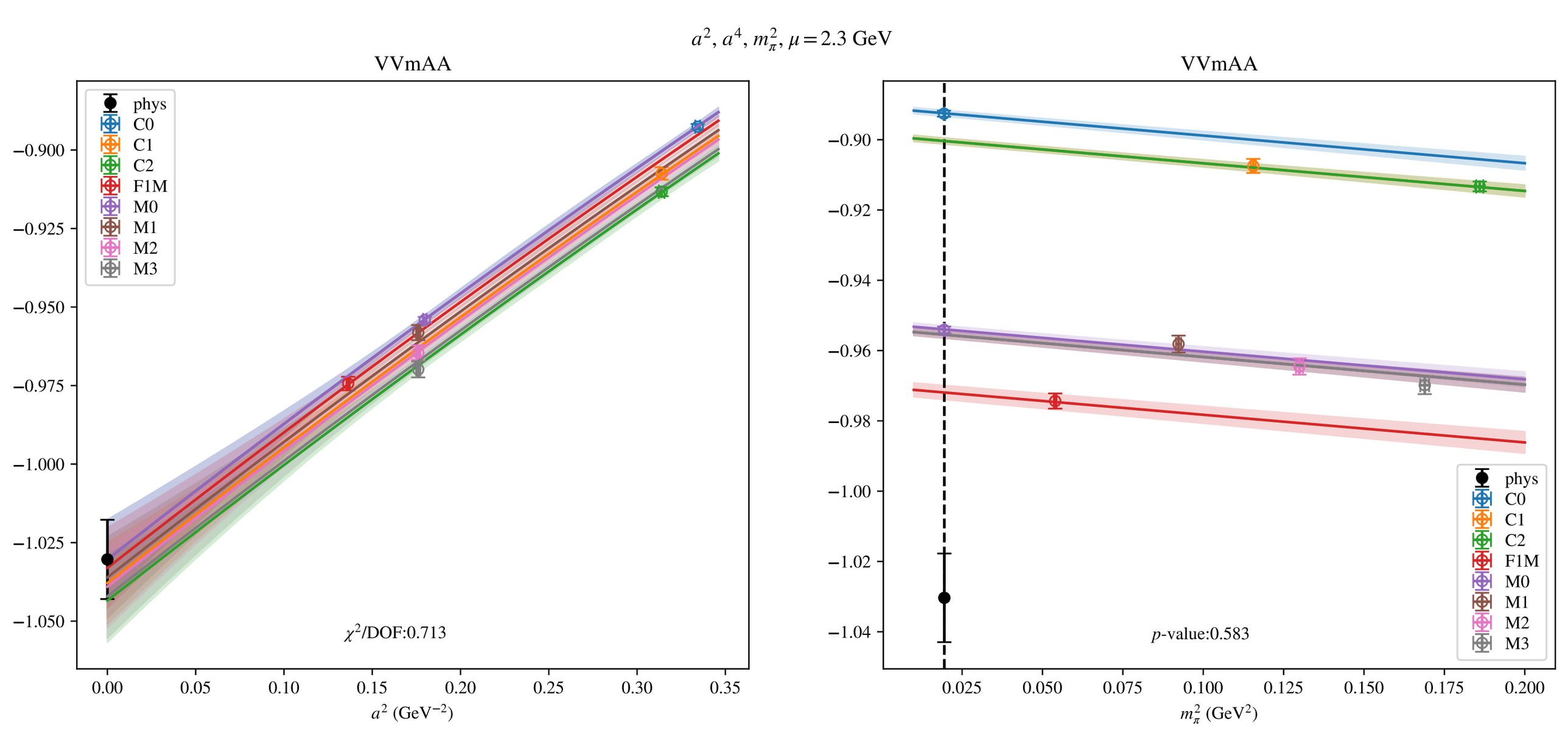

a^2, m_π^2 (no C), $\mu = 2.2$ GeV
VVmAA
phys
M0
M1
M2
M3
F1M
−0.900
−0.925
−0.950
−0.975
−1.000
−1.025
−1.050
χ^2/DOF:1.153
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVmAA
−0.98
−1.00
−1.02
−1.04
p-value:0.316
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

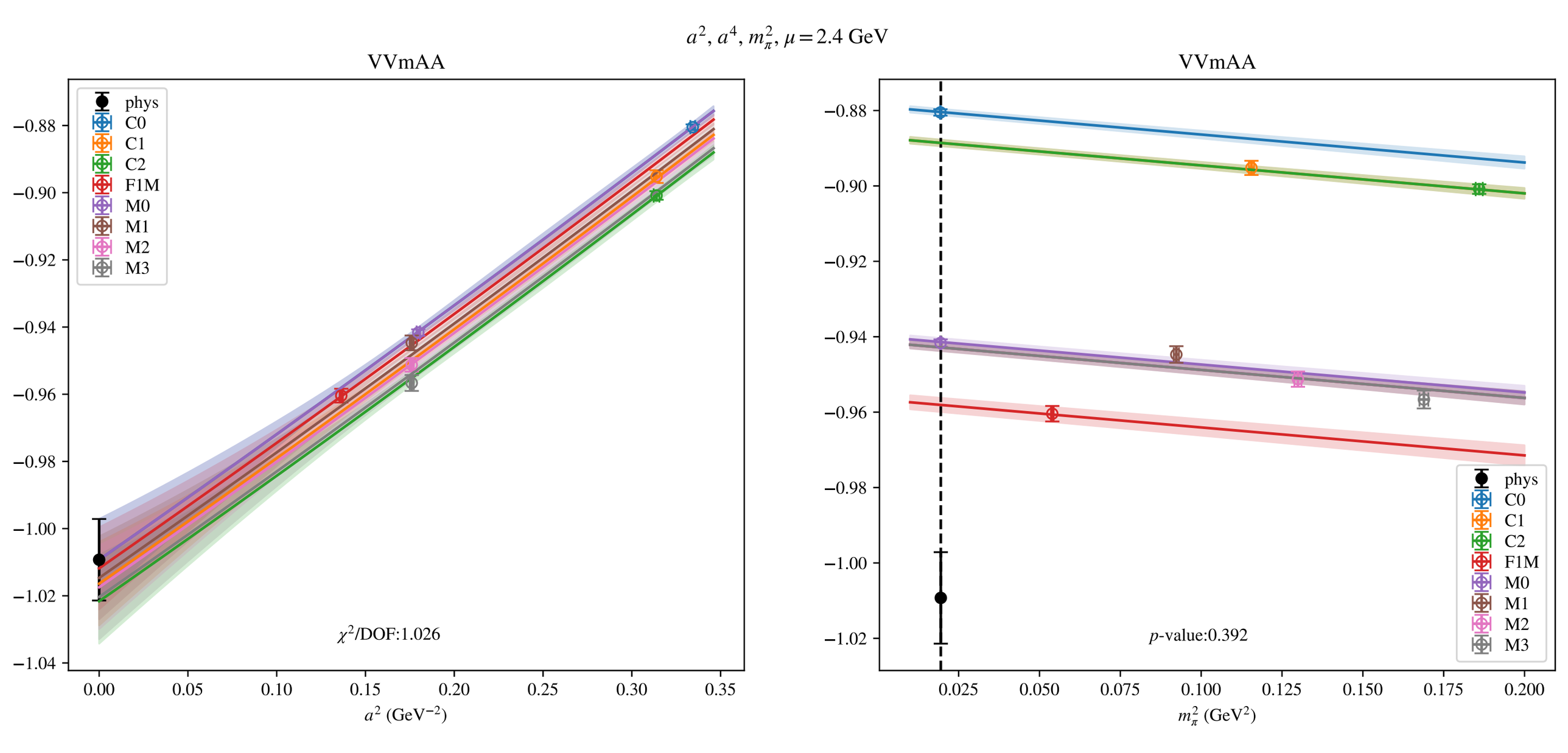

a^2, m_π^2 (no C), $\mu = 2.3$ GeV
VVmAA
phys
M0
M1
M2
M3
F1M
−0.875
−0.900
−0.925
−0.950
−0.975
−1.000
−1.025
−1.050
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
χ^2/DOF:1.295
VVmAA
−0.96
−0.98
−1.00
−1.02
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
p-value:0.274
phys
M0
M1
M2
M3
F1M

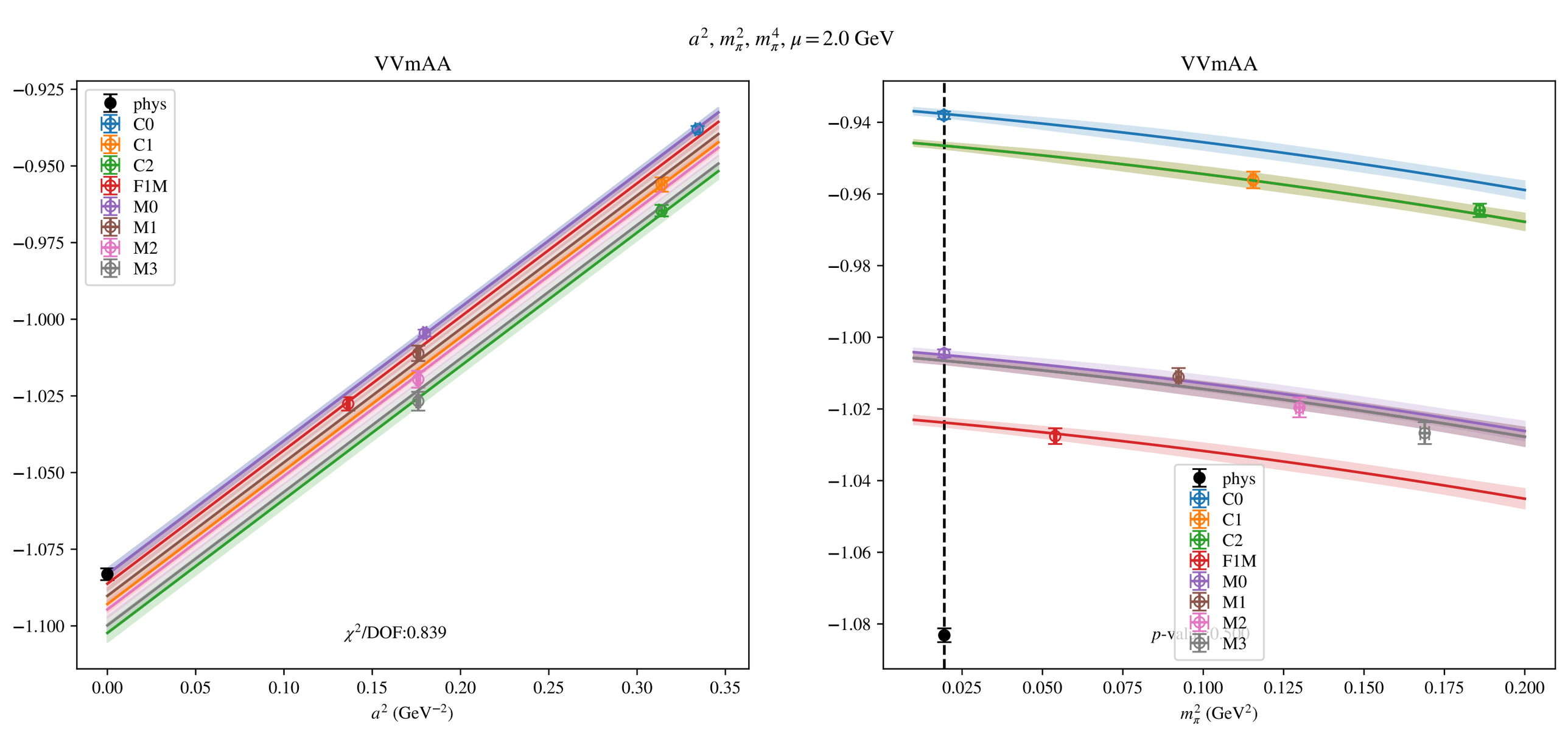

a^2, m_π^2 (no C), $\mu = 2.4$ GeV
VVmAA
phys
M0
M1
M2
M3
F1M
−0.88
−0.90
−0.92
−0.94
−0.96
−0.98
−1.00
−1.02
χ^2/DOF:1.935
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVmAA
−0.94
−0.95
−0.96
−0.97
−0.98
−0.99
−1.00
−1.01
−1.02
p-value:0.144
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)


$a^2, a^4, m_\pi^2, \mu = 2.0$ GeV
VVmAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:0.917
a^2 (GeV^{-2})
VVmAA
p-value:0.453
m_π^2 (GeV^2)

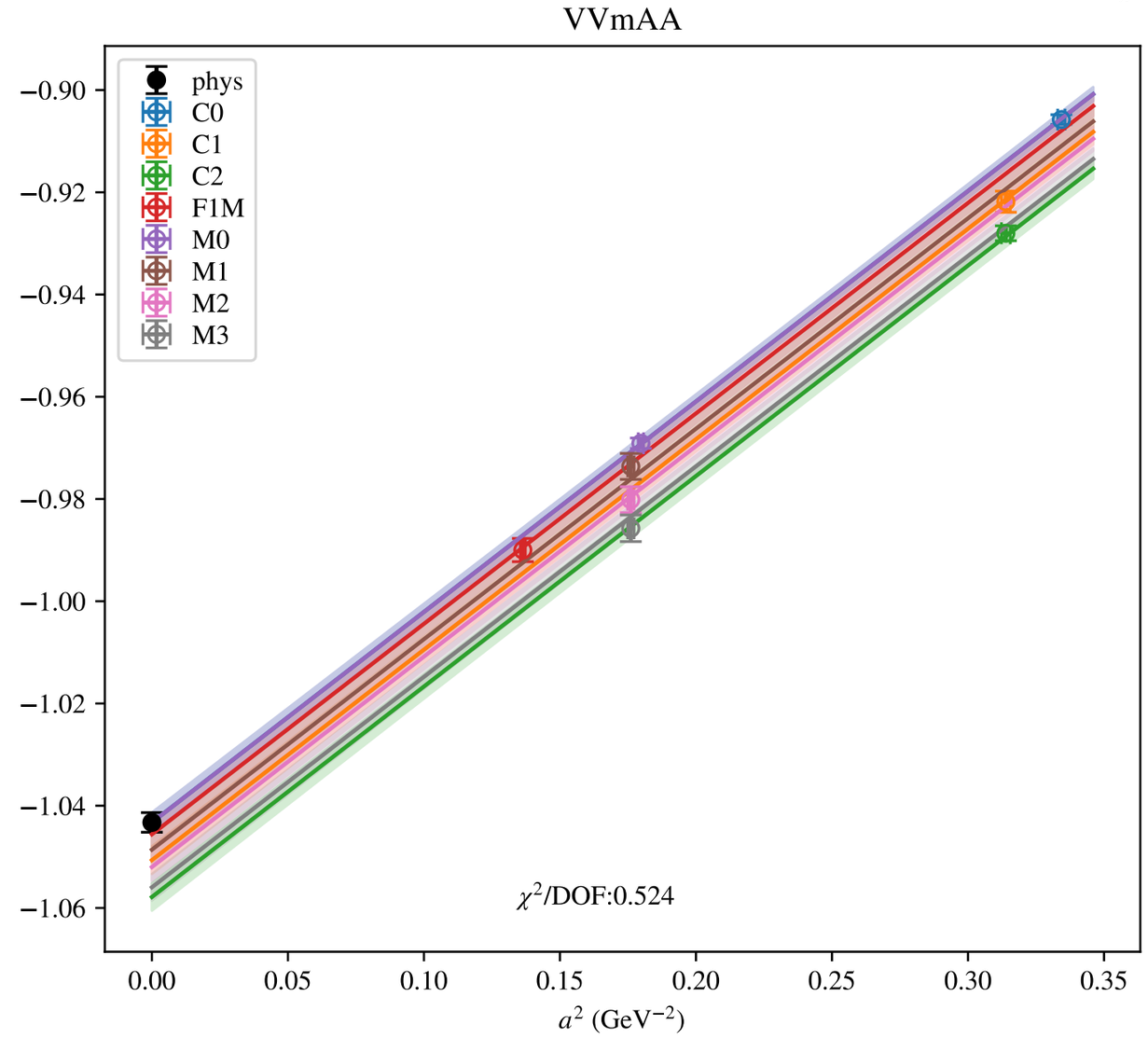

$a^2, a^4, m_\pi^2, \mu = 2.2$ GeV
VVmAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
−0.900
−0.925
−0.950
−0.975
−1.000
−1.025
−1.050
−1.075
χ^2/DOF:0.611
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVmAA
−0.90
−0.92
−0.94
−0.96
−0.98
−1.00
−1.02
−1.04
−1.06
p-value:0.654
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

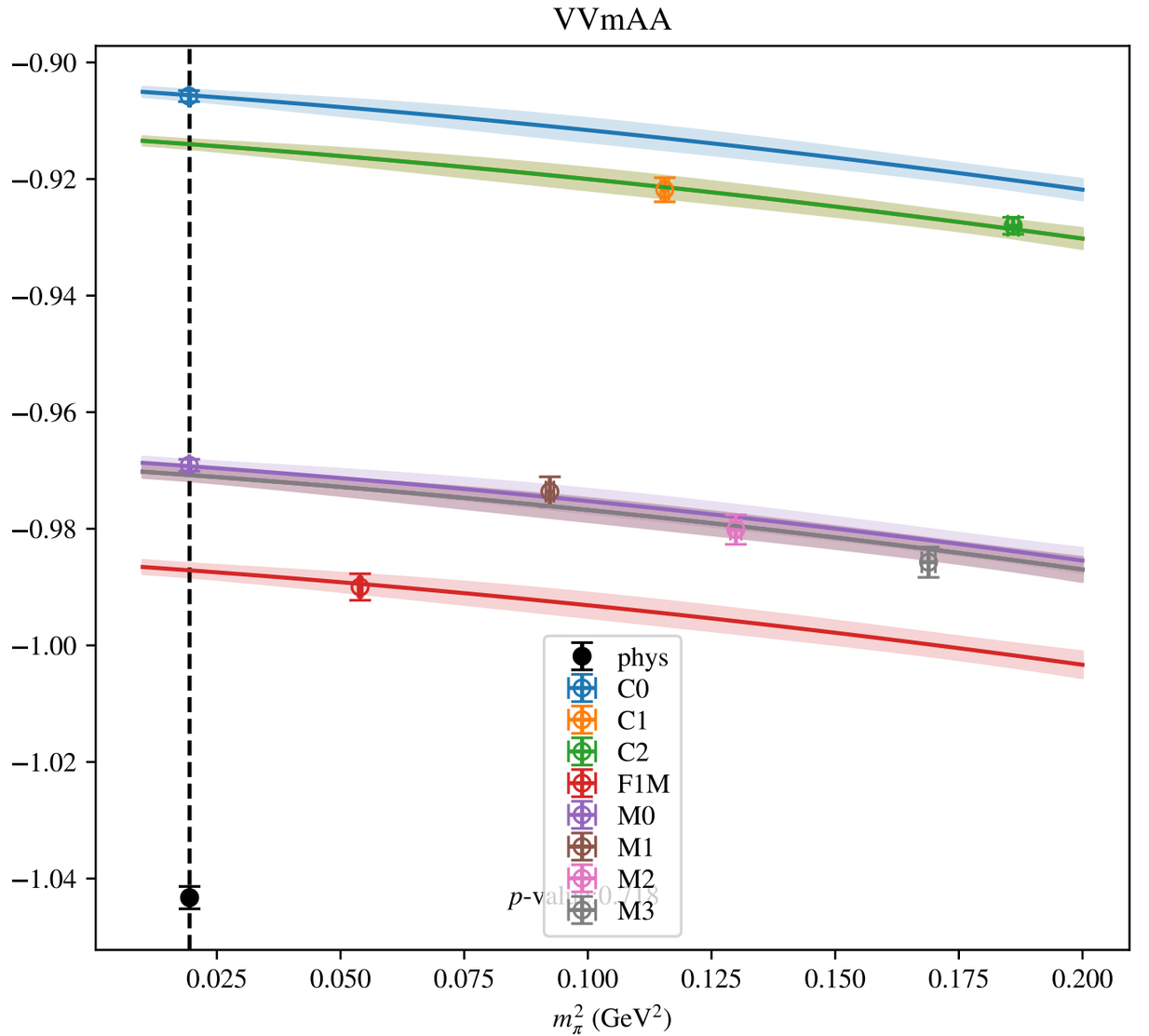

$a^2, a^4, m_\pi^2, \mu = 2.3$ GeV
VVmAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
−0.900
−0.925
−0.950
−0.975
−1.000
−1.025
−1.050
χ^2/DOF:0.713
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVmAA
−0.90
−0.92
−0.94
−0.96
−0.98
−1.00
−1.02
−1.04
p-value:0.583
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)


$a^2, a^4, m_\pi^2, \mu = 2.4$ GeV
VVmAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
−0.88
−0.90
−0.92
−0.94
−0.96
−0.98
−1.00
−1.02
−1.04
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
χ^2/DOF:1.026
VVmAA
−0.88
−0.90
−0.92
−0.94
−0.96
−0.98
−1.00
−1.02
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
p-value:0.392
phys
C0
C1
C2
F1M
M0
M1
M2
M3

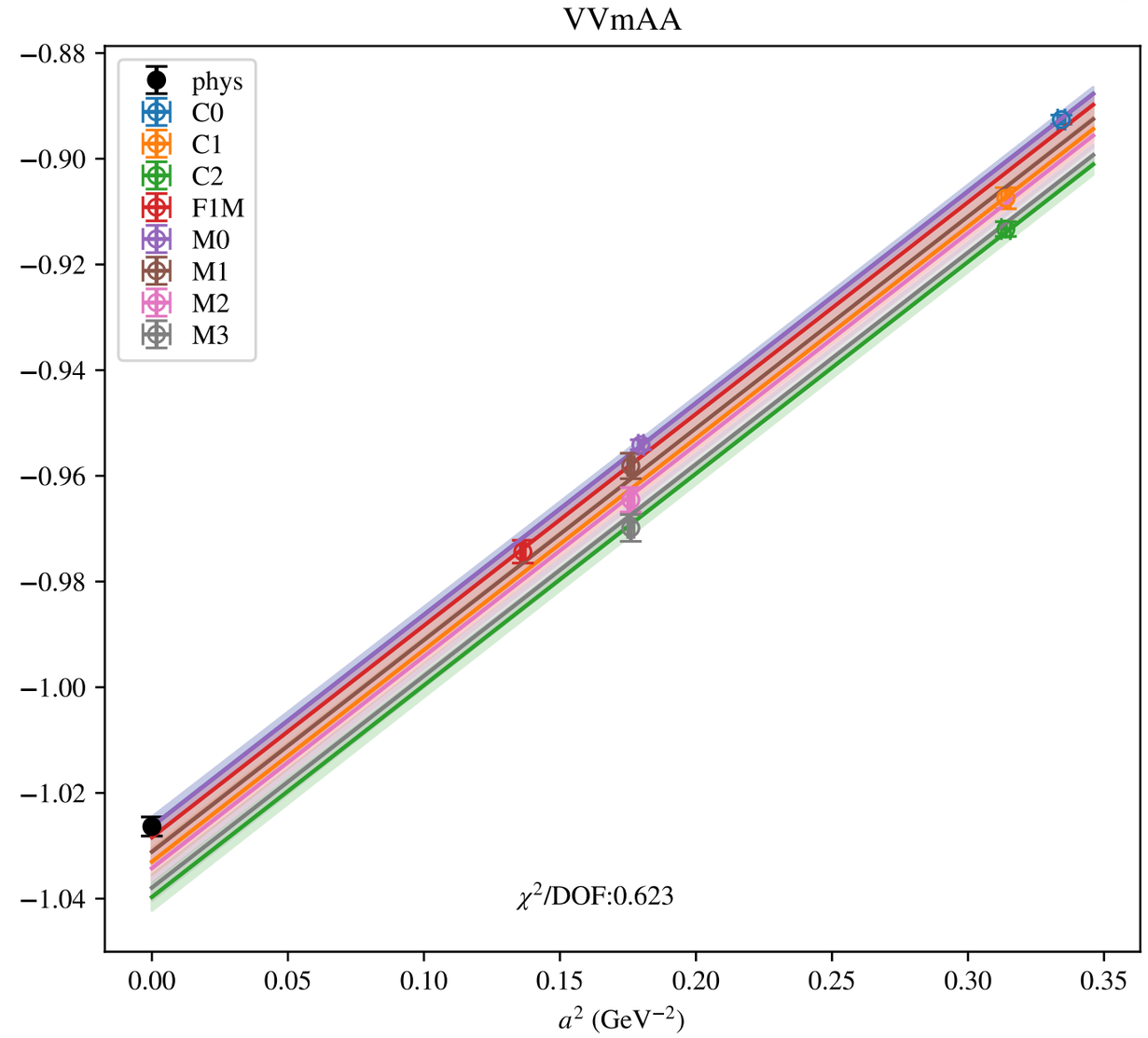

$a^2, m_\pi^2, m_\pi^4, \mu = 2.0$ GeV
VVmAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:0.839
a^2 (GeV^{-2})
VVmAA
m_π^2 (GeV^2)

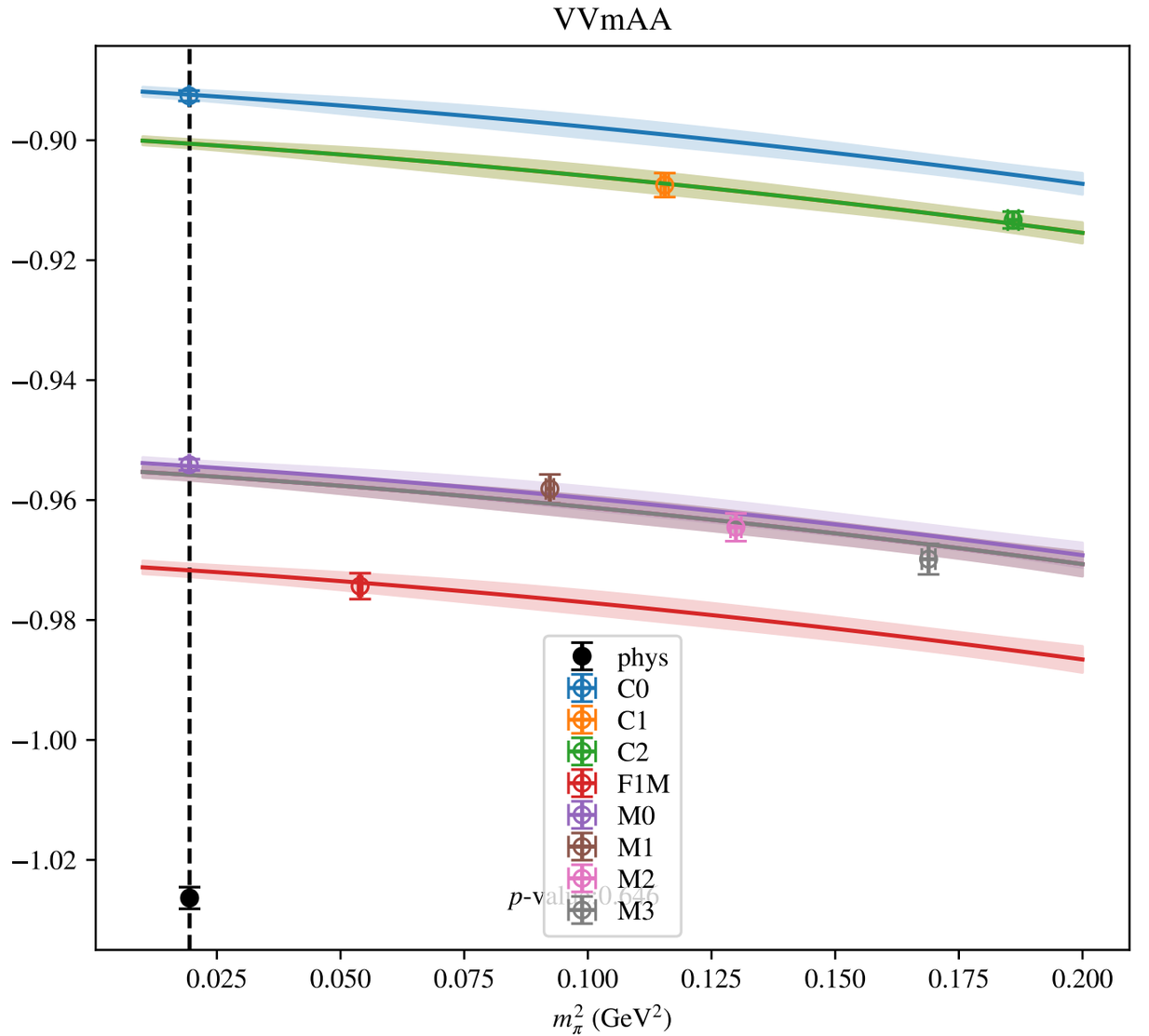
$a^2, m_\pi^2, m_\pi^4, \mu = 2.2$ GeV

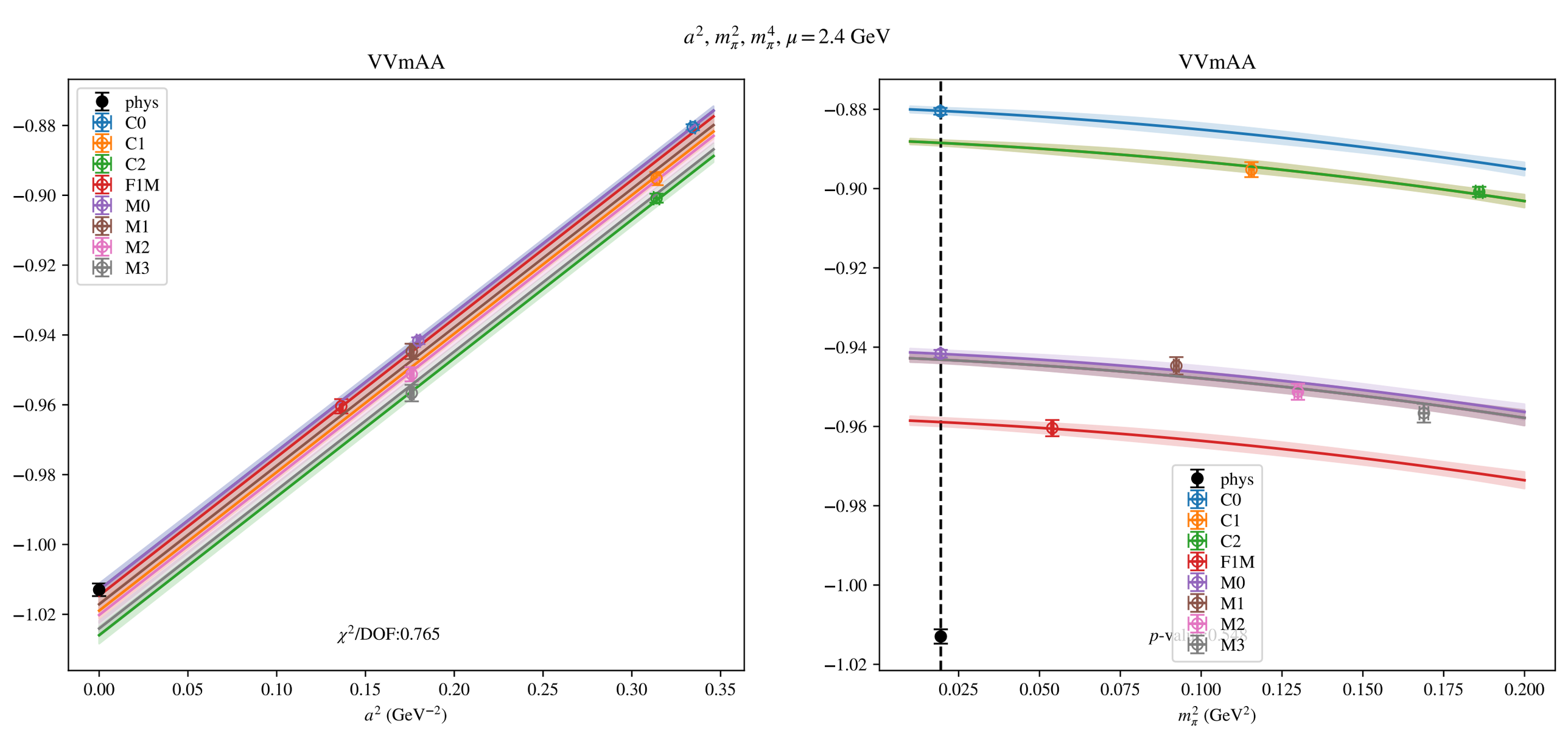




$a^2, m_\pi^2, m_\pi^4, \mu = 2.3$ GeV






$a^2, m_\pi^2, m_\pi^4, \mu = 2.4$ GeV
VVmAA
phys
C0
C1
C2
F1M
M0
M1
M2
M3
−0.88
−0.90
−0.92
−0.94
−0.96
−0.98
−1.00
−1.02
χ^2/DOF:0.765
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
VVmAA
−0.88
−0.90
−0.92
−0.94
−0.96
−0.98
−1.00
−1.02
phys
C0
C1
C2
F1M
M0
M1
M2
M3
p-val
0.548
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

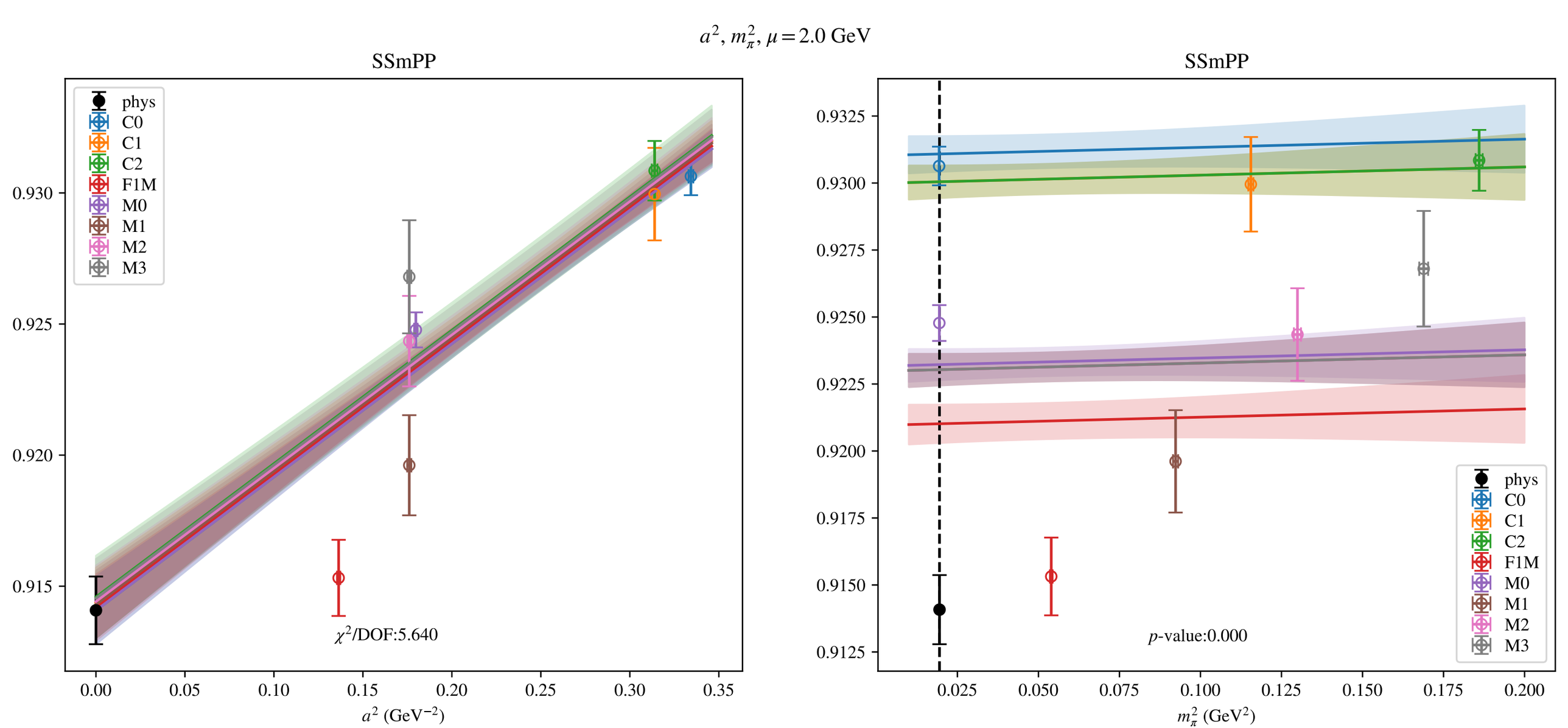
3 B_3

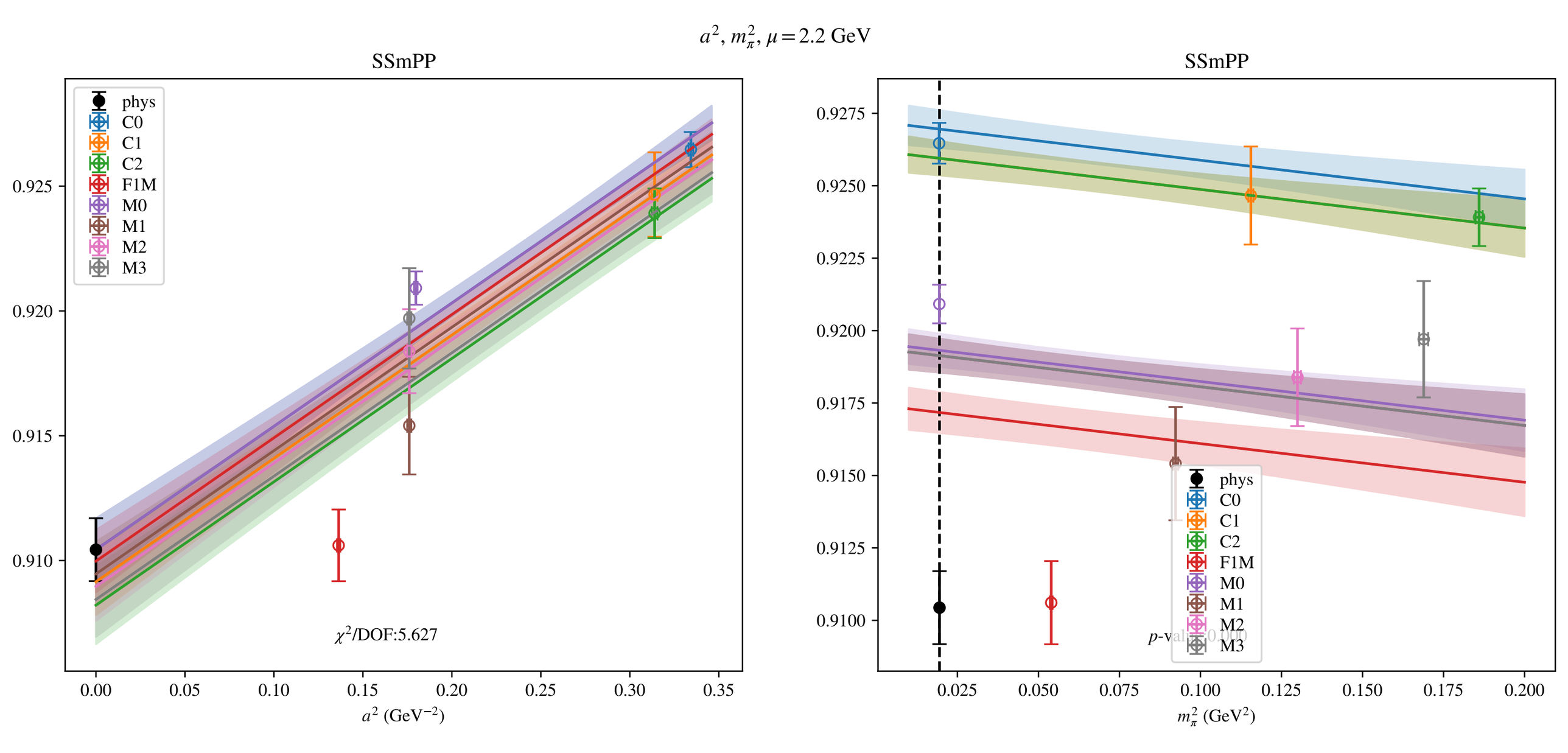
μ (GeV)	a^2, m_π^2	a^2, m_π^2 (no C)	a^2, a^4, m_π^2	a^2, m_π^2, m_π^4
2.0	**0.9140(12)**: 5.64 (0.0)	**0.8853(65)**: 3.392 (0.034)	**0.868(10)**: 2.094 (0.079)	**0.9159(14)**: 4.752 (0.001)
2.2	**0.9104(12)**: 5.627 (0.0)	**0.8803(63)**: 2.059 (0.128)	**0.861(10)**: 1.37 (0.242)	**0.9121(14)**: 5.199 (0.0)
2.3	**0.9090(12)**: 5.971 (0.0)	**0.8781(63)**: 2.161 (0.115)	**0.859(10)**: 1.532 (0.19)	**0.9108(13)**: 5.437 (0.0)
2.4	**0.9080(12)**: 6.697 (0.0)	**0.8757(62)**: 2.496 (0.082)	**0.8559(99)**: 1.713 (0.144)	**0.9100(13)**: 6.06 (0.0)

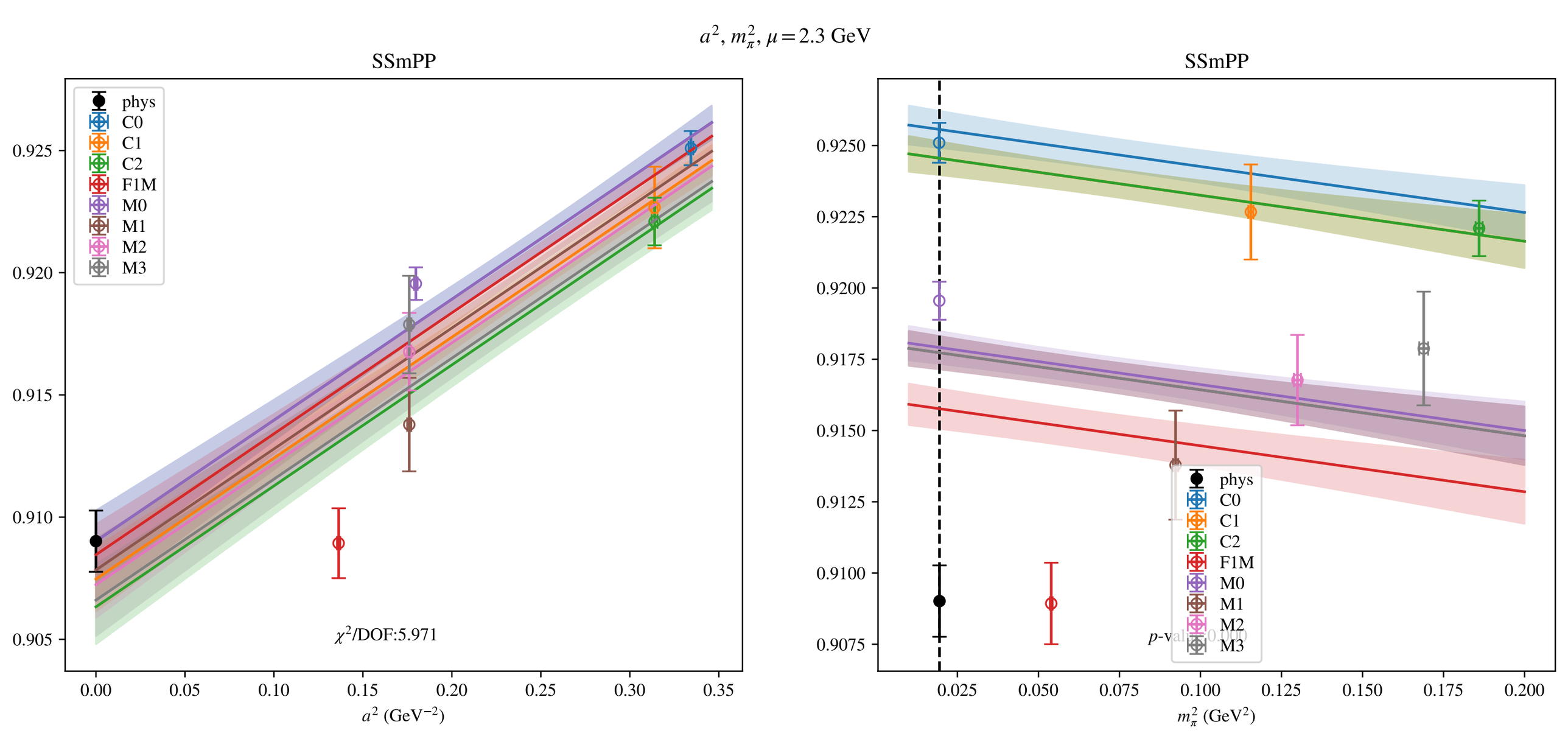
Table 5: Physical point value from chiral and continuum extrapolation at renormalisation scale μ. Entries are **value(error)**: χ^2/DOF (p-value).

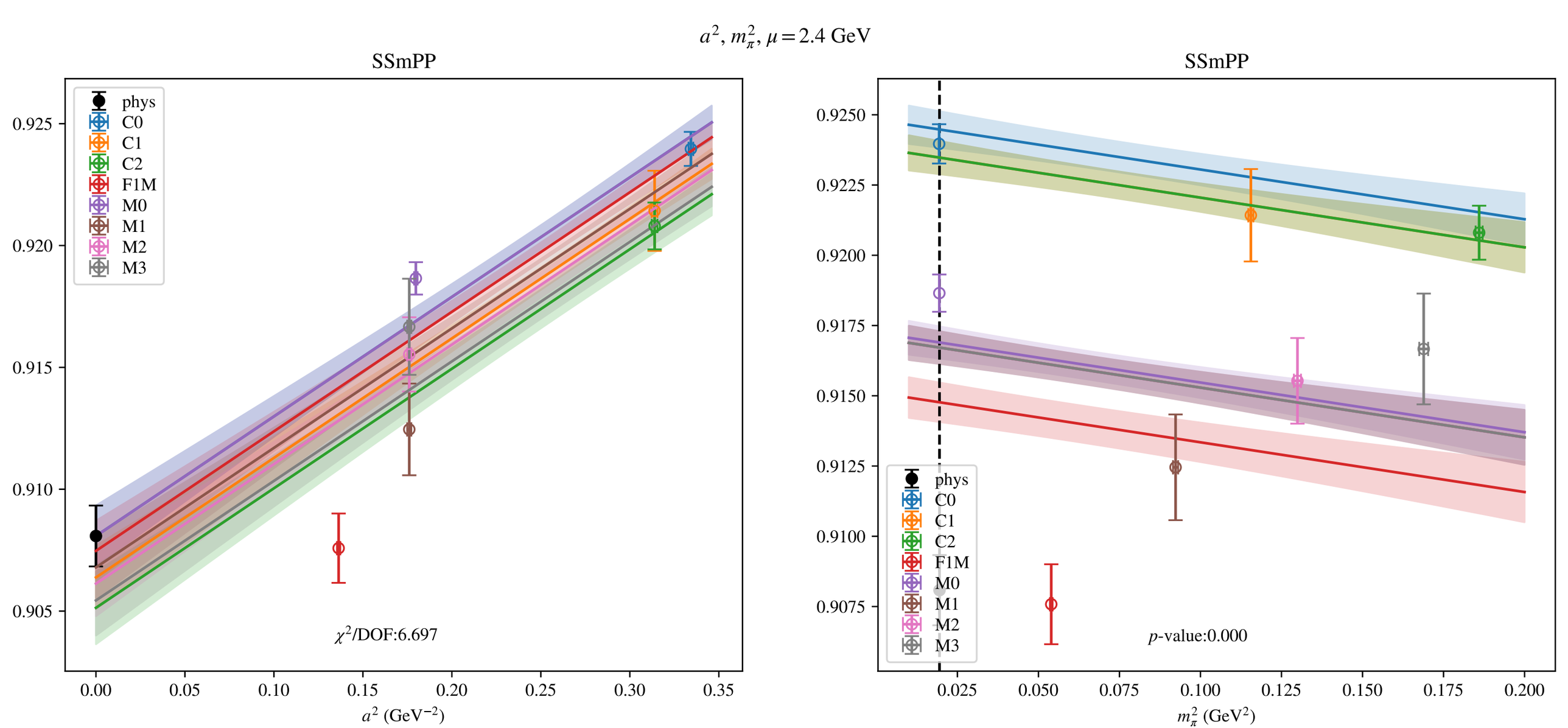
μ (GeV)		a^2, m_π^2	a^2, m_π^2 (no C)	a^2, a^4, m_π^2	a^2, m_π^2, m_π^4
2.0	α	0.0556(54)	0.246(43)	0.53(11)	0.0486(59)
	β	0.0	0.0	-0.0001(14)	-0.0019(63)
2.2	α	0.0542(53)	0.254(42)	0.56(11)	0.0480(58)
	β	-0.0002(12)	-0.0002(22)	-0.0004(13)	-0.0019(66)
2.3	α	0.0544(52)	0.261(42)	0.57(11)	0.0477(57)
	β	-0.0003(11)	-0.0003(21)	-0.0005(13)	-0.0020(64)
2.4	α	0.0540(52)	0.271(42)	0.60(11)	0.0468(57)
	β	-0.0003(11)	-0.0003(20)	-0.0005(12)	-0.0022(62)

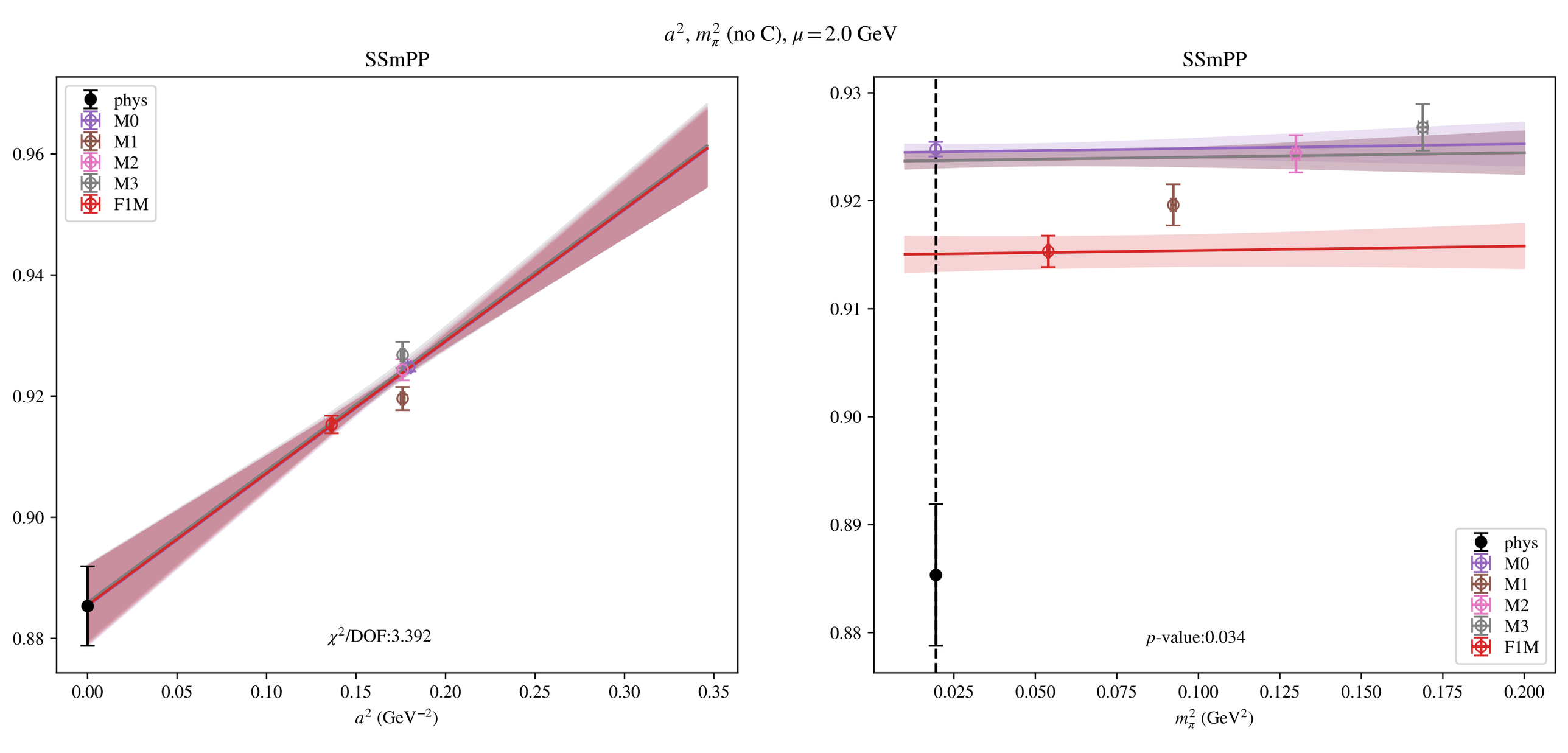
Table 6: Fit values of coefficients in $B = B_{phys} + \alpha a^2 + \beta \left(\frac{m_\pi^2}{f_\pi^2} - \frac{m_{\pi,PDG}^2}{f_\pi^2} \right) + \ldots$.

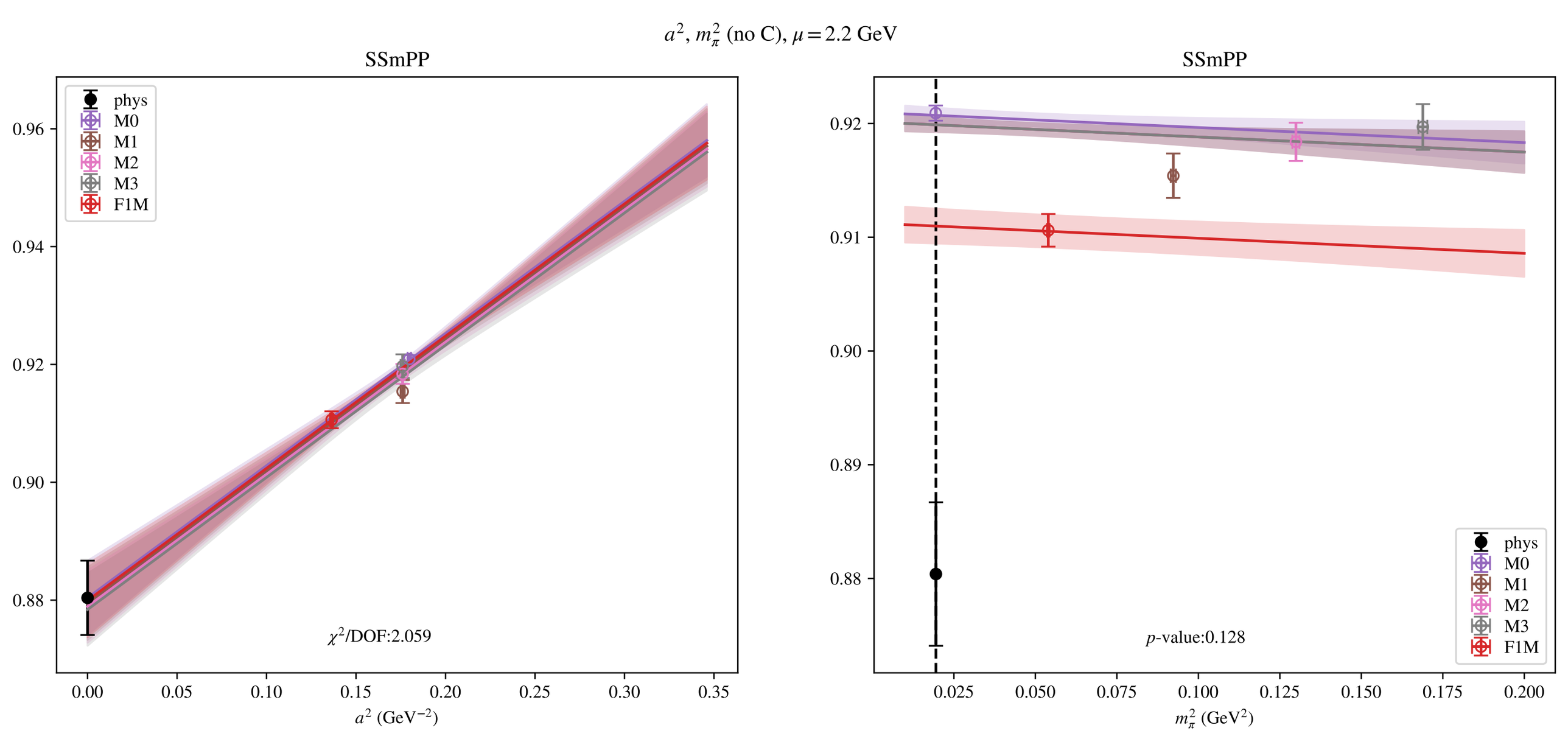

a^2, m_π^2, $\mu = 2.0$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.930
0.925
0.920
0.915
χ^2/DOF:5.640
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.9325
0.9300
0.9275
0.9250
0.9225
0.9200
0.9175
0.9150
0.9125
p-value:0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

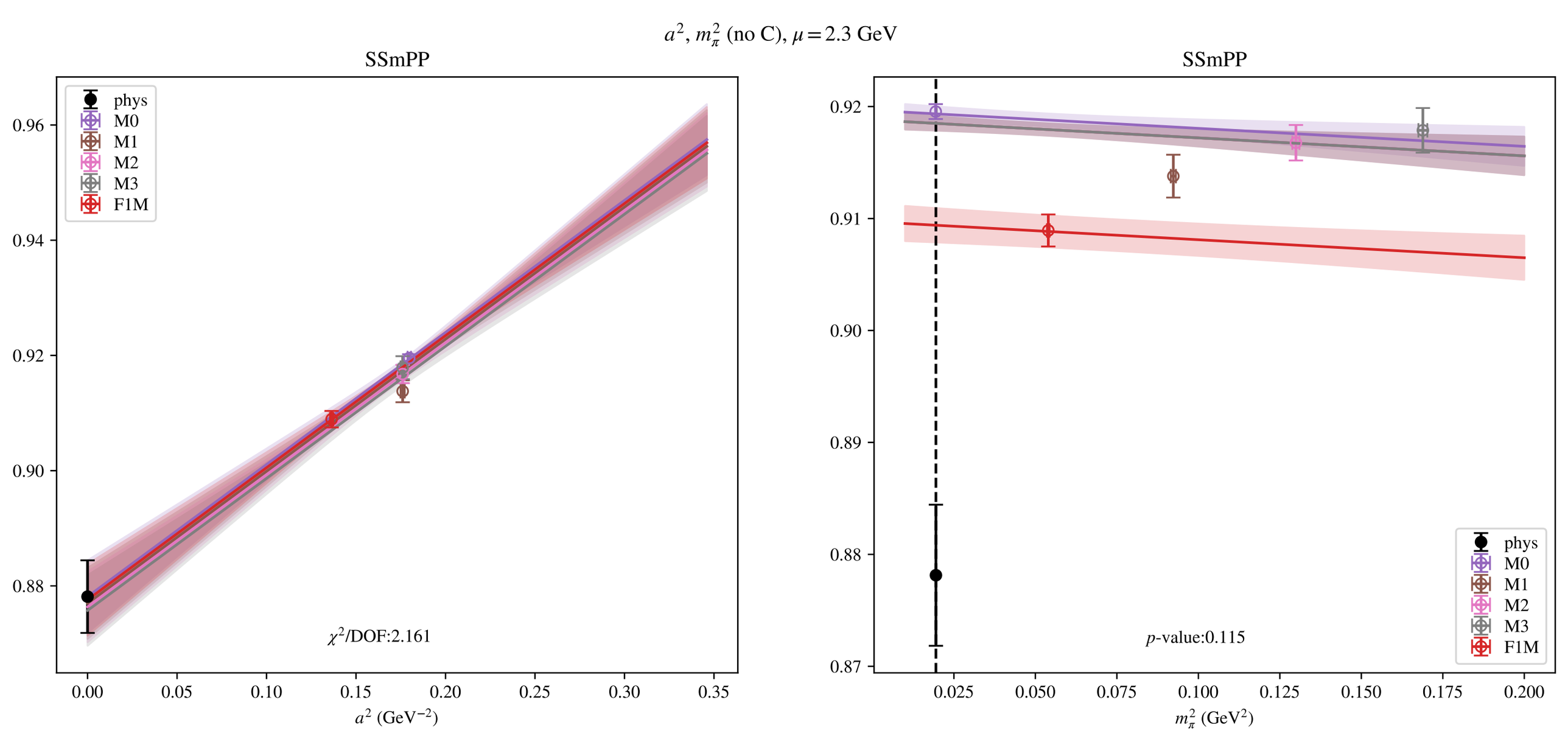

$a^2, m_\pi^2, \mu = 2.2$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.925
0.920
0.915
0.910
χ^2/DOF:5.627
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.9275
0.9250
0.9225
0.9200
0.9175
0.9150
0.9125
0.9100
p-value: 0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

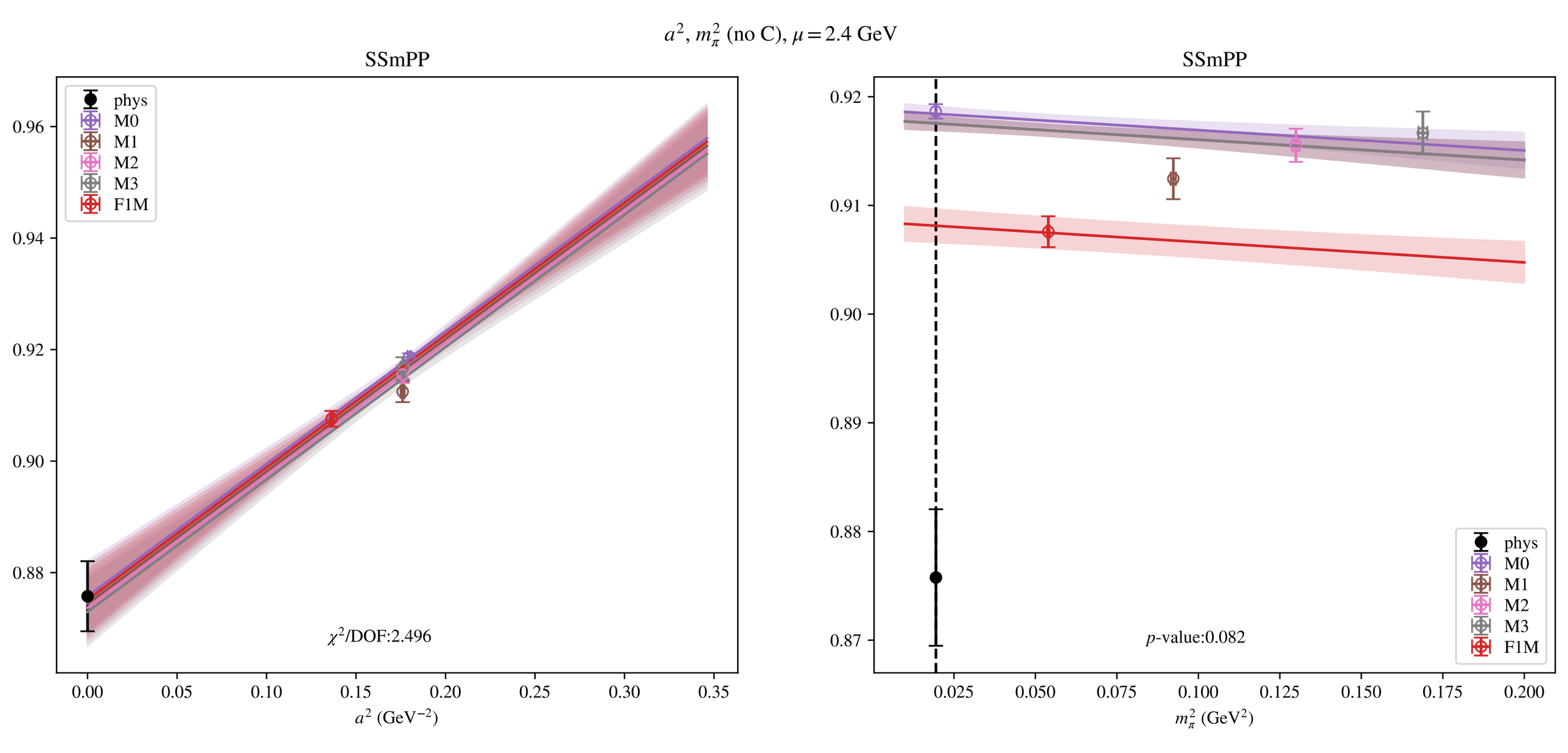

a^2, m_π^2, $\mu = 2.3$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.925
0.920
0.915
0.910
0.905
χ^2/DOF:5.971
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.9250
0.9225
0.9200
0.9175
0.9150
0.9125
0.9100
0.9075
p-value: 0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

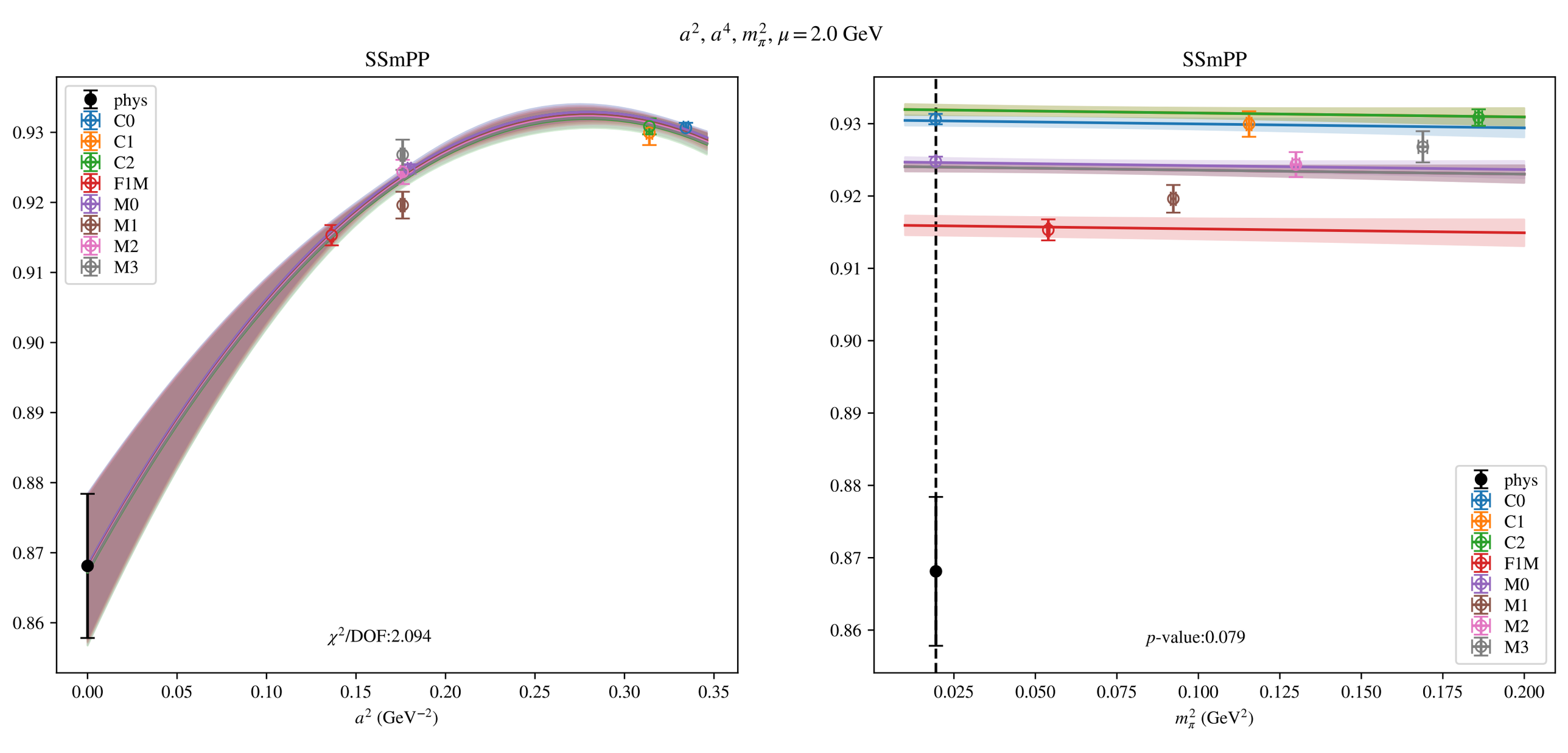

a^2, m_π^2, $\mu = 2.4$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.925
0.920
0.915
0.910
0.905
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
χ^2/DOF:6.697
SSmPP
0.9250
0.9225
0.9200
0.9175
0.9150
0.9125
0.9100
0.9075
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
p-value:0.000

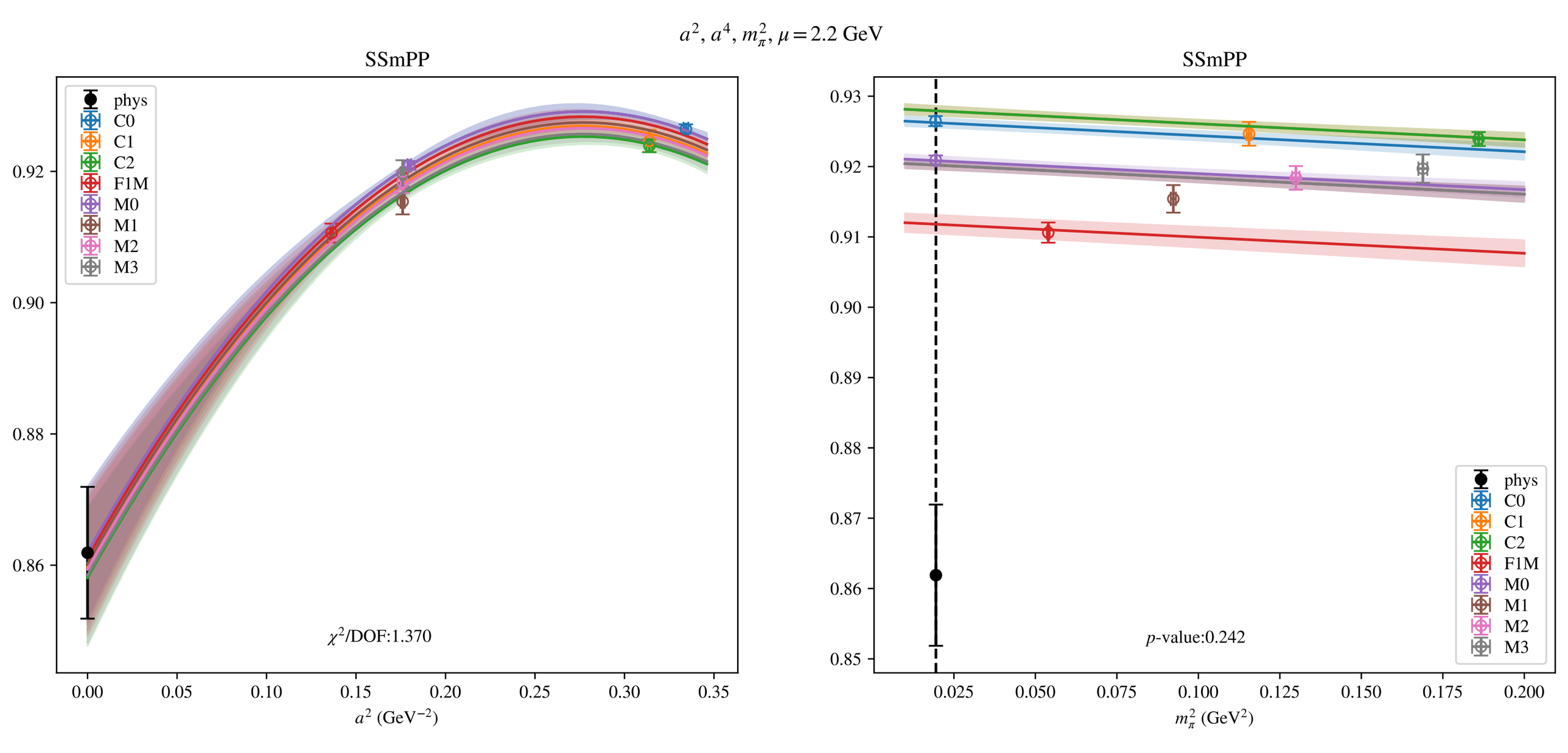

a^2, m_π^2 (no C), $\mu = 2.0$ GeV
SSmPP
phys
M0
M1
M2
M3
F1M
0.96
0.94
0.92
0.90
0.88
χ^2/DOF:3.392
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.93
0.92
0.91
0.90
0.89
0.88
p-value:0.034
phys
M0
M1
M2
M3
F1M
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

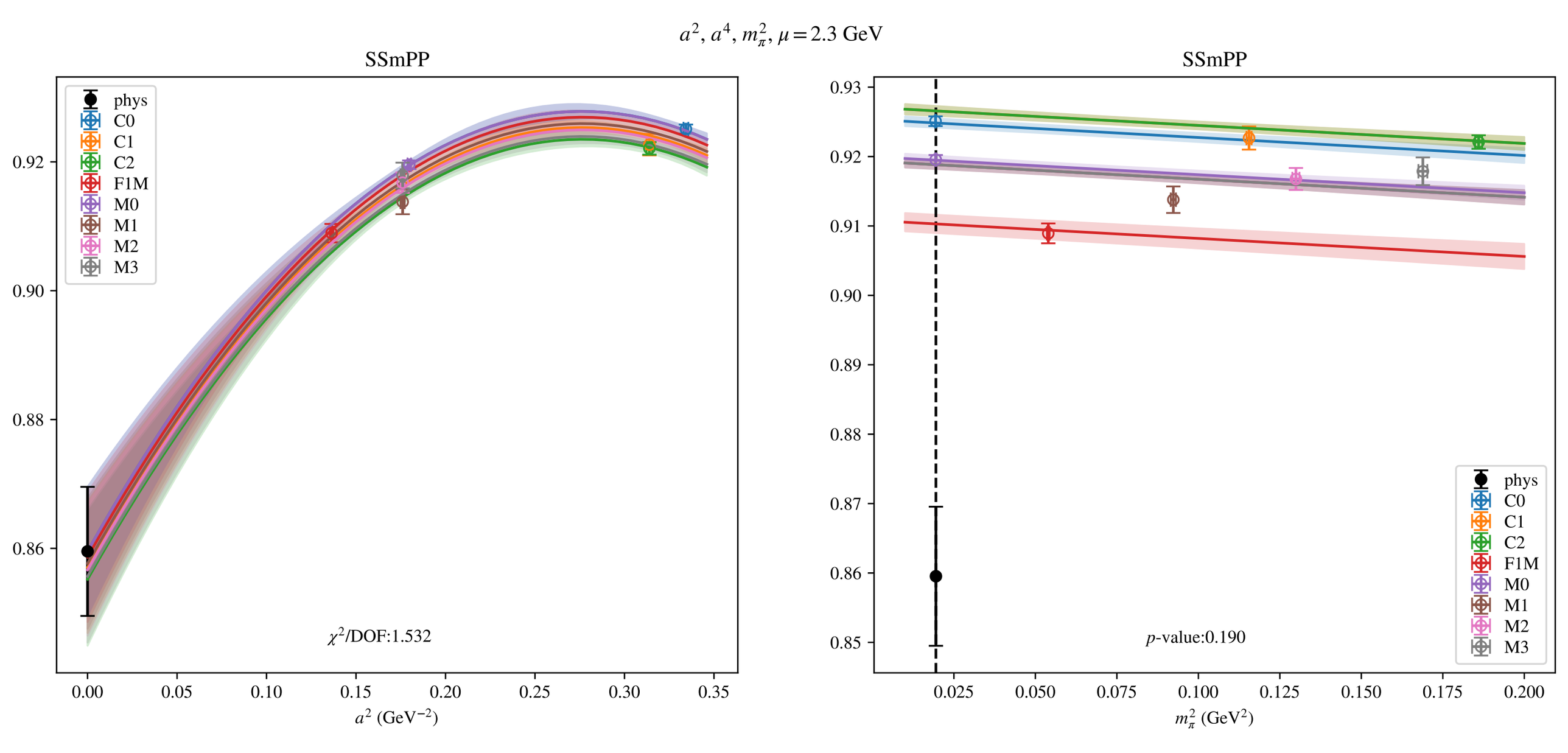

a^2, m_π^2 (no C), $\mu = 2.2$ GeV
SSmPP
phys
M0
M1
M2
M3
F1M
0.96
0.94
0.92
0.90
0.88
χ^2/DOF:2.059
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.92
0.91
0.90
0.89
0.88
p-value:0.128
phys
M0
M1
M2
M3
F1M
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

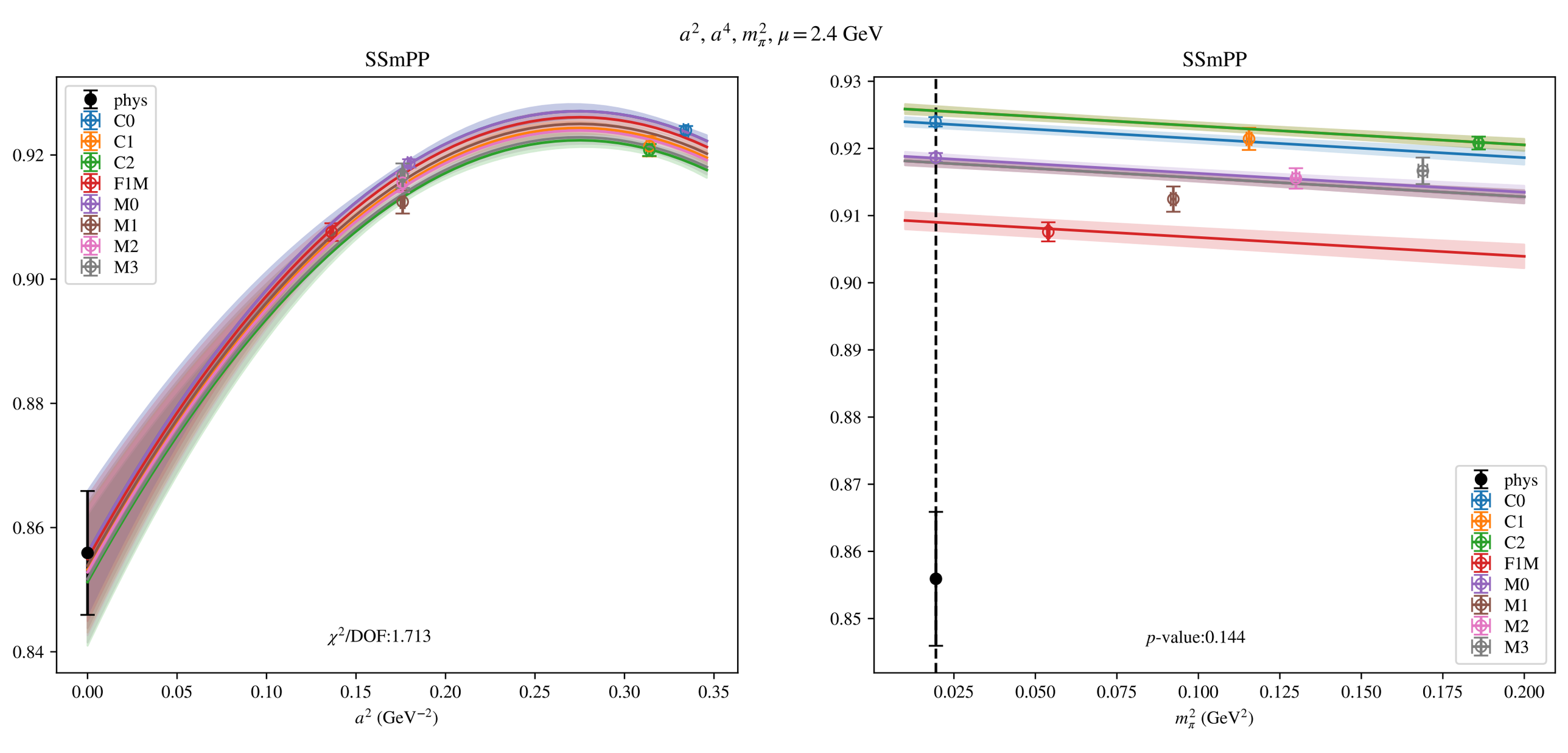

a^2, m_π^2 (no C), $\mu = 2.3$ GeV
SSmPP
phys
M0
M1
M2
M3
F1M
0.96
0.94
0.92
0.90
0.88
χ^2/DOF:2.161
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.92
0.91
0.90
0.89
0.88
0.87
p-value:0.115
phys
M0
M1
M2
M3
F1M
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

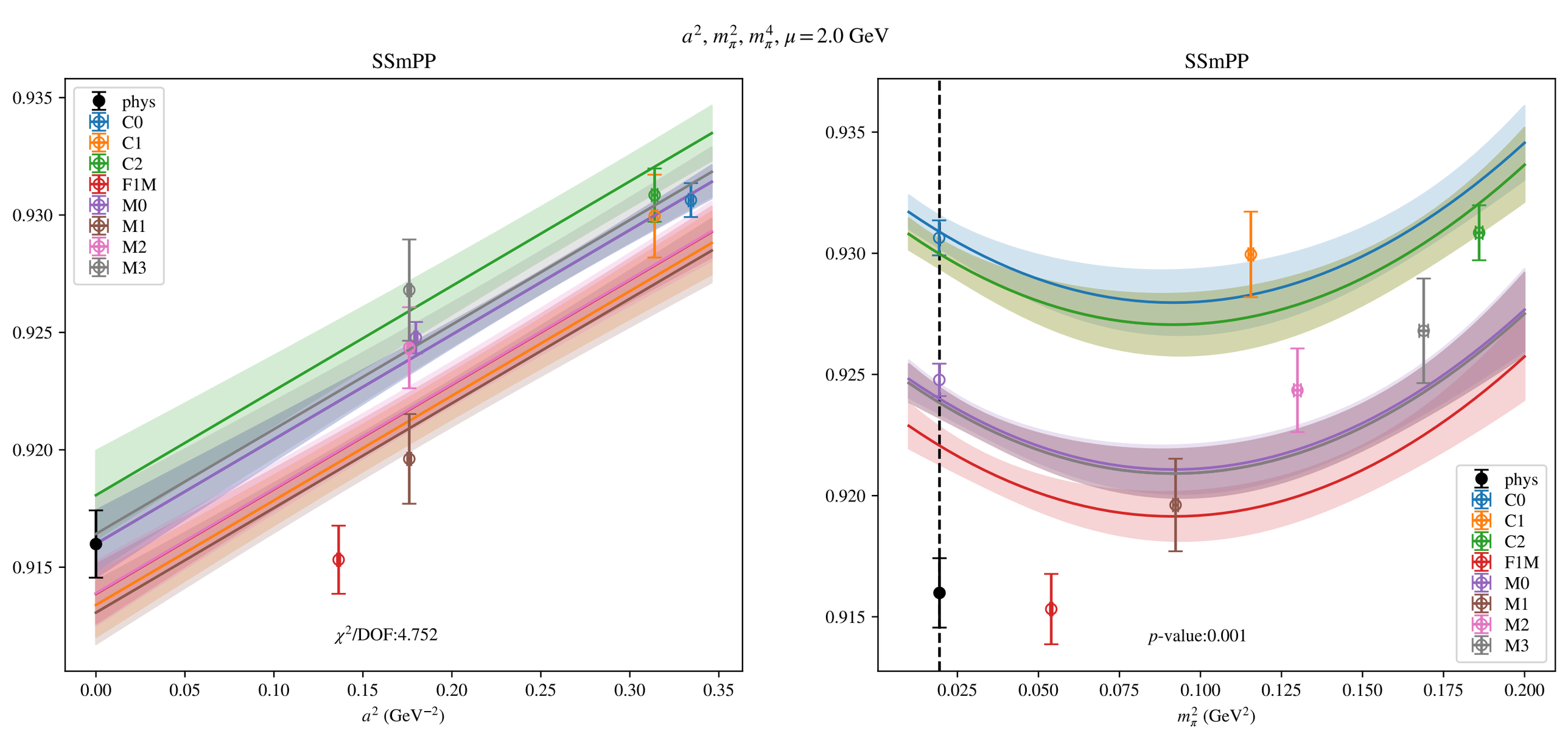

a^2, m_π^2 (no C), $\mu = 2.4$ GeV
SSmPP
phys
M0
M1
M2
M3
F1M
0.96
0.94
0.92
0.90
0.88
χ^2/DOF:2.496
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.92
0.91
0.90
0.89
0.88
0.87
p-value:0.082
phys
M0
M1
M2
M3
F1M
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

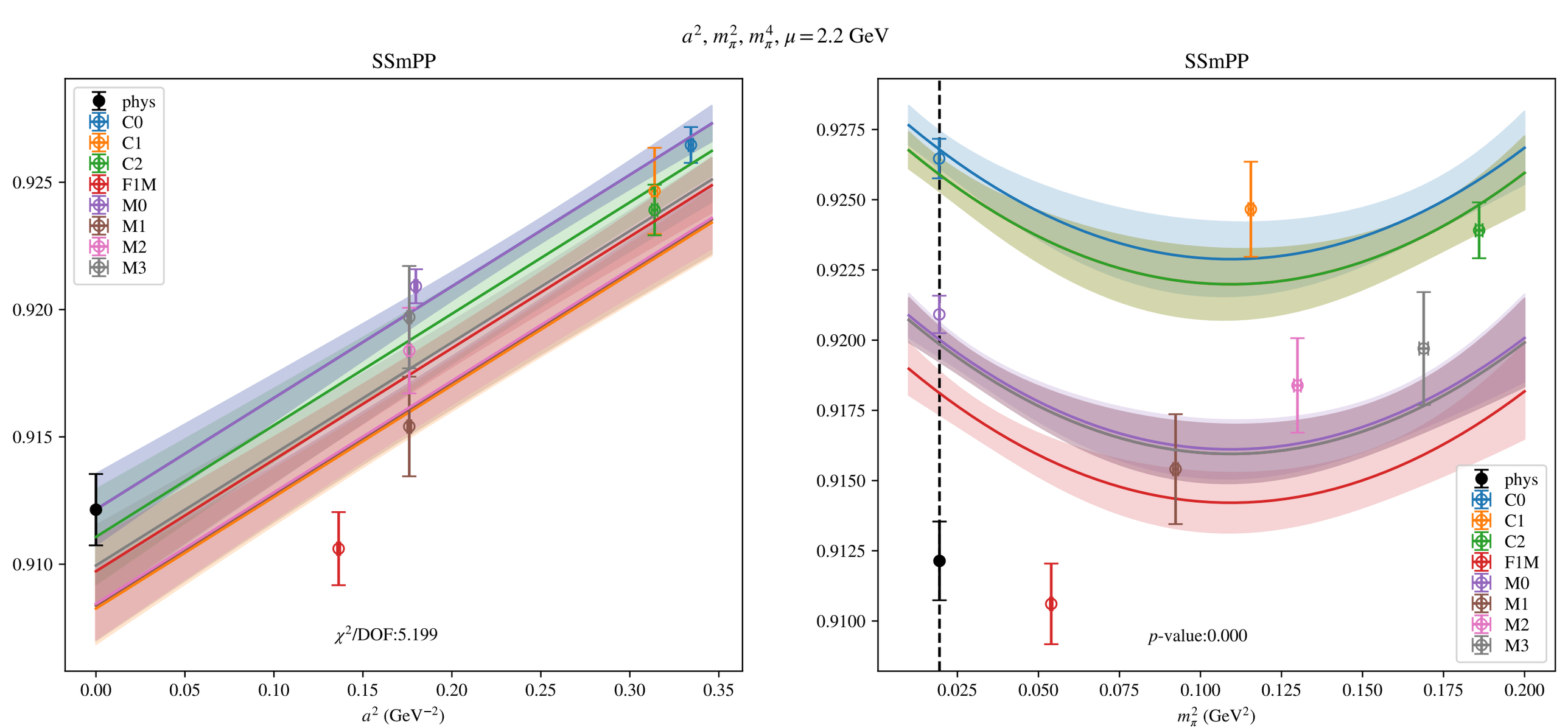

$a^2, a^4, m_\pi^2, \mu = 2.0$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.93
0.92
0.91
0.90
0.89
0.88
0.87
0.86
χ^2/DOF:2.094
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
p-value:0.079
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

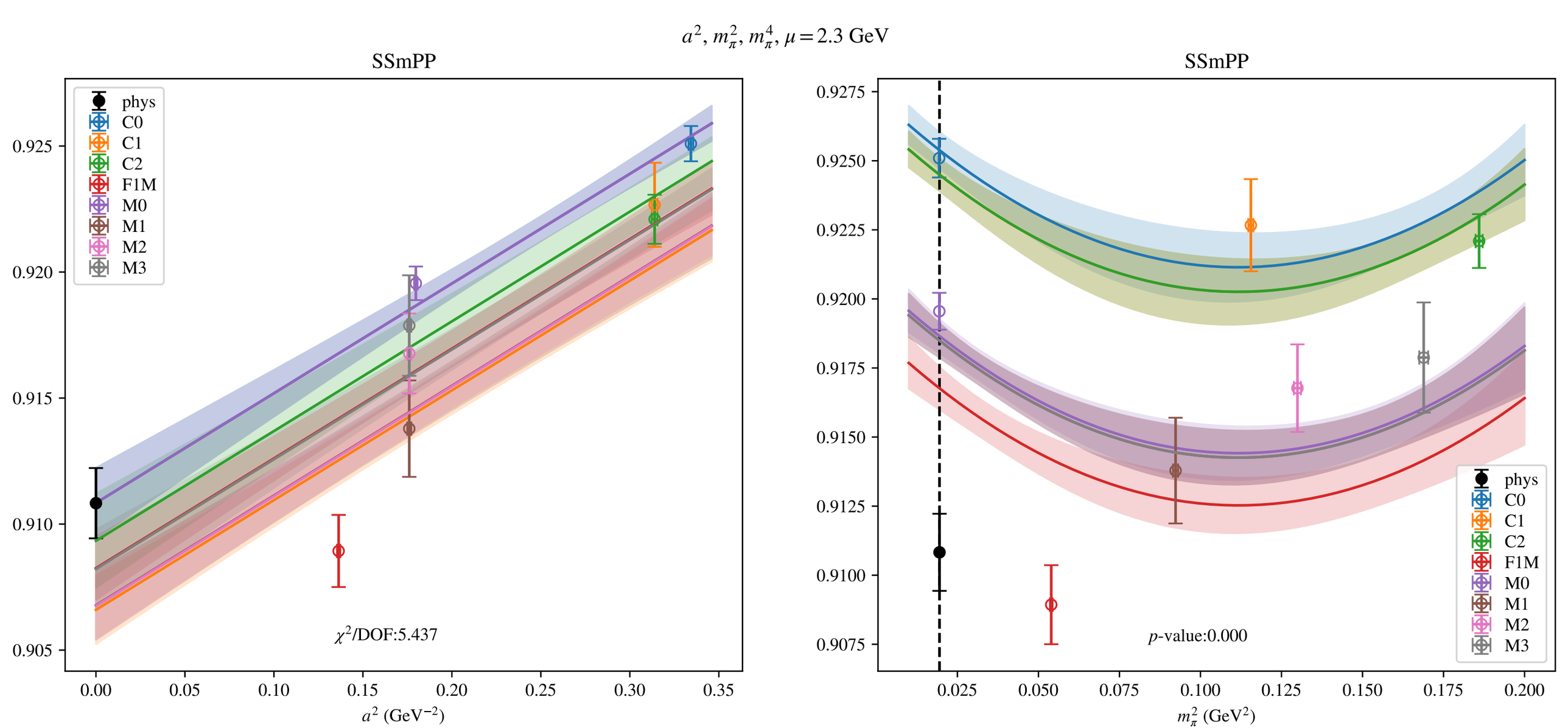

$a^2, a^4, m_\pi^2, \mu = 2.2$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.92
0.90
0.88
0.86
χ^2/DOF:1.370
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.93
0.92
0.91
0.90
0.89
0.88
0.87
0.86
0.85
p-value:0.242
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

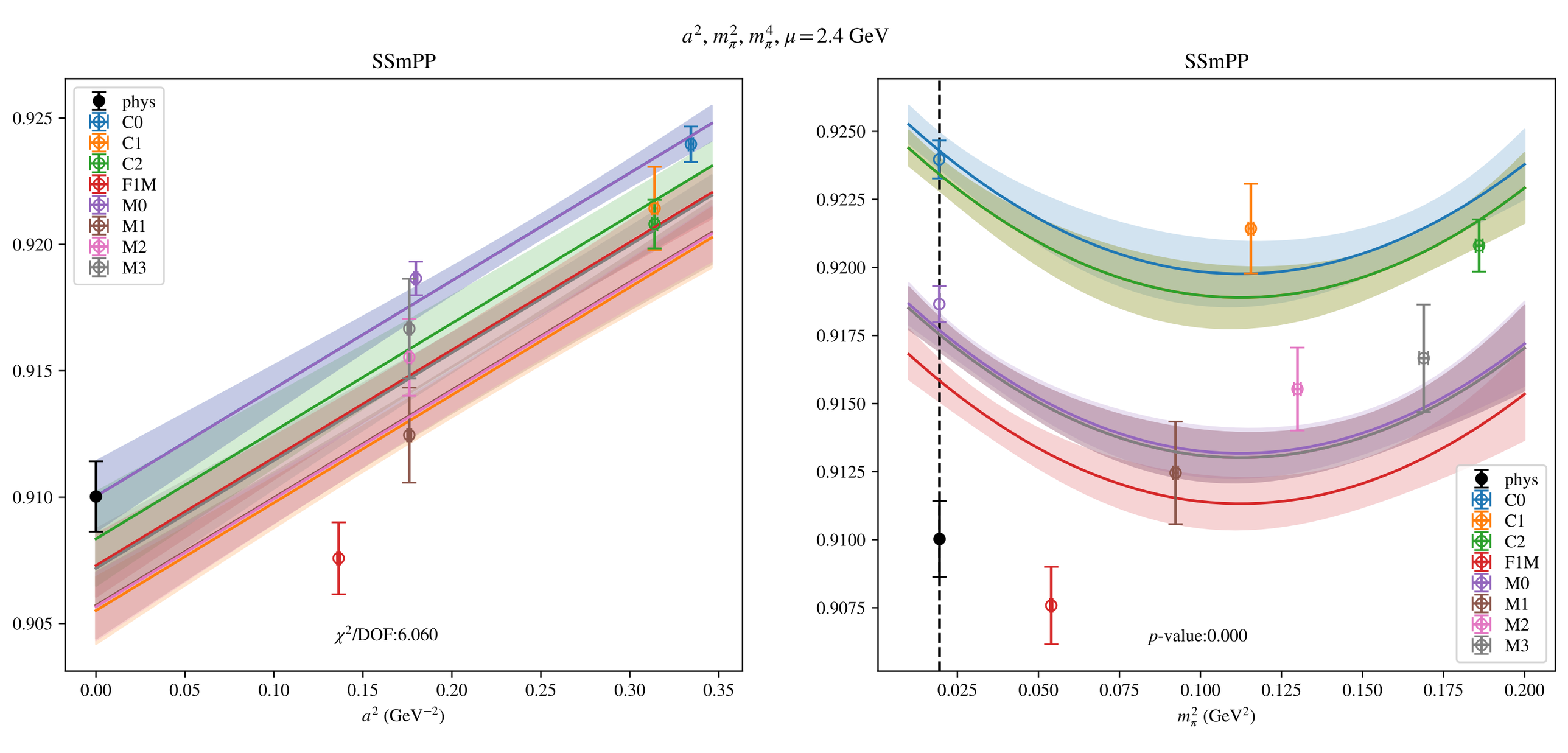

$a^2, a^4, m_\pi^2, \mu = 2.3$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.92
0.90
0.88
0.86
χ^2/DOF:1.532
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.93
0.92
0.91
0.90
0.89
0.88
0.87
0.86
0.85
p-value:0.190
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)


$a^2, a^4, m_\pi^2, \mu = 2.4$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:1.713
a^2 (GeV^{-2})
SSmPP
p-value:0.144
m_π^2 (GeV^2)


$a^2, m_\pi^2, m_\pi^4, \mu = 2.0$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.935
0.930
0.925
0.920
0.915
χ^2/DOF:4.752
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.935
0.930
0.925
0.920
0.915
p-value:0.001
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)


$a^2, m_\pi^2, m_\pi^4, \mu = 2.2$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.925
0.920
0.915
0.910
χ^2/DOF:5.199
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.9275
0.9250
0.9225
0.9200
0.9175
0.9150
0.9125
0.9100
p-value:0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)


$a^2, m_\pi^2, m_\pi^4, \mu = 2.3$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.925
0.920
0.915
0.910
0.905
χ^2/DOF:5.437
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.9275
0.9250
0.9225
0.9200
0.9175
0.9150
0.9125
0.9100
0.9075
p-value:0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)


$a^2, m_\pi^2, m_\pi^4, \mu = 2.4$ GeV
SSmPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.925
0.920
0.915
0.910
0.905
χ^2/DOF:6.060
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSmPP
0.9250
0.9225
0.9200
0.9175
0.9150
0.9125
0.9100
0.9075
p-value:0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

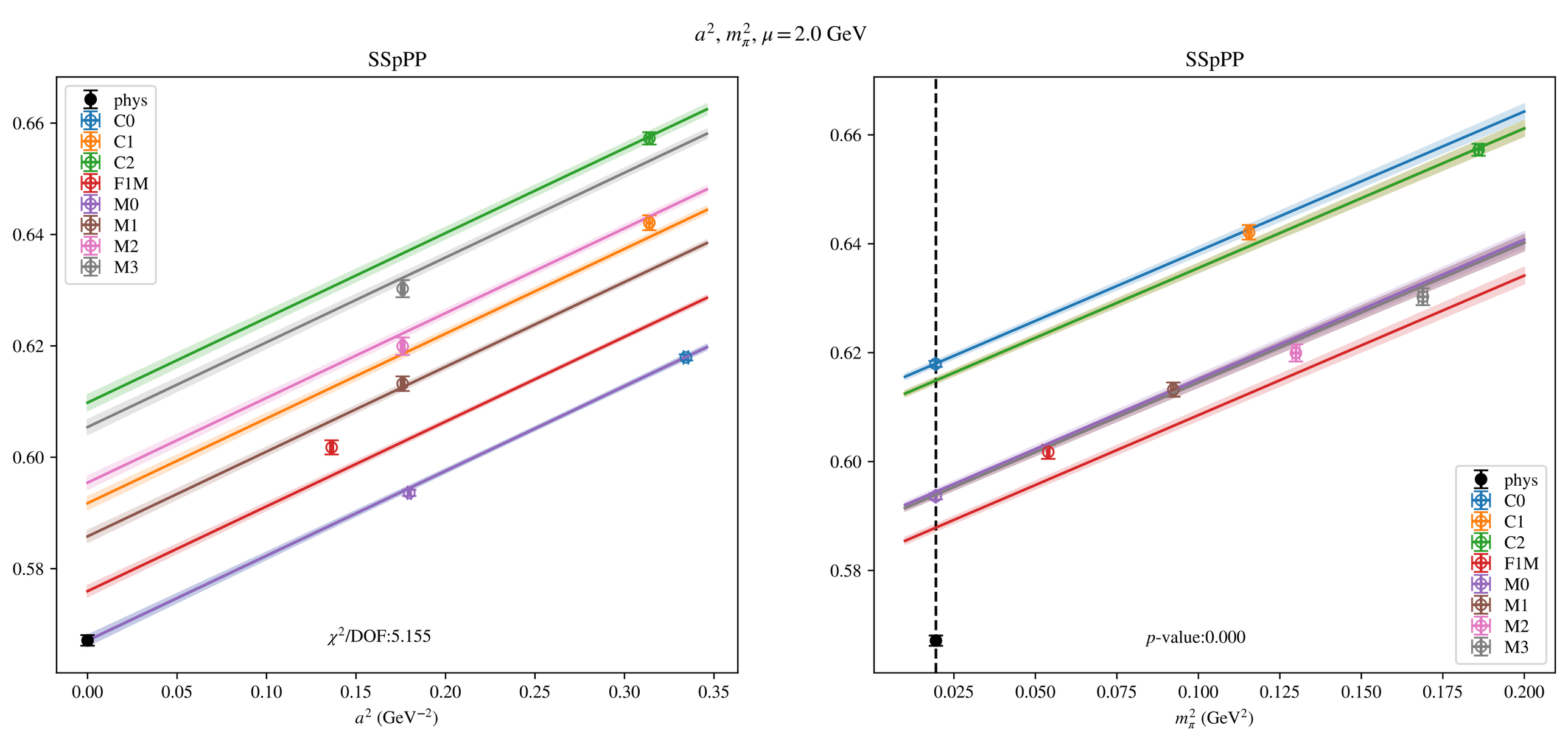
4 B_4

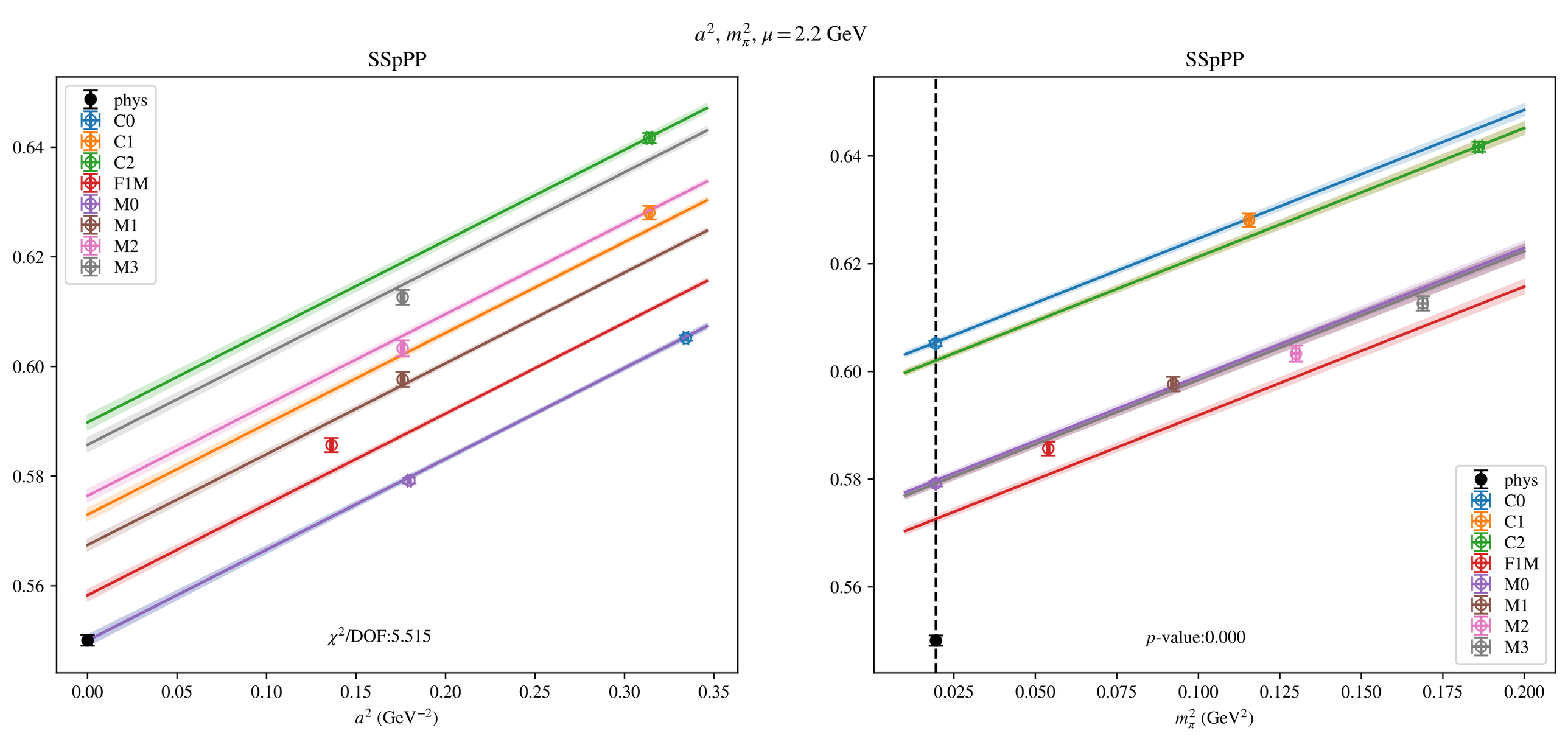
μ (GeV)	a^2, m_π^2	a^2, m_π^2 (no C)	a^2, a^4, m_π^2	a^2, m_π^2, m_π^4
2.0	**0.56711(94)**: 5.155 (0.0)	**0.5919(54)**: 0.934 (0.393)	**0.5997(87)**: 3.111 (0.014)	**0.5658(10)**: 4.514 (0.001)
2.2	**0.55003(96)**: 5.515 (0.0)	**0.5735(52)**: 1.315 (0.268)	**0.5766(86)**: 4.635 (0.001)	**0.54879(99)**: 4.735 (0.001)
2.3	**0.54271(92)**: 5.479 (0.0)	**0.5658(52)**: 1.442 (0.236)	**0.5690(85)**: 4.496 (0.001)	**0.54154(97)**: 4.8 (0.001)
2.4	**0.53684(91)**: 5.295 (0.0)	**0.5576(51)**: 1.384 (0.251)	**0.5584(83)**: 4.966 (0.001)	**0.53575(97)**: 4.991 (0.001)

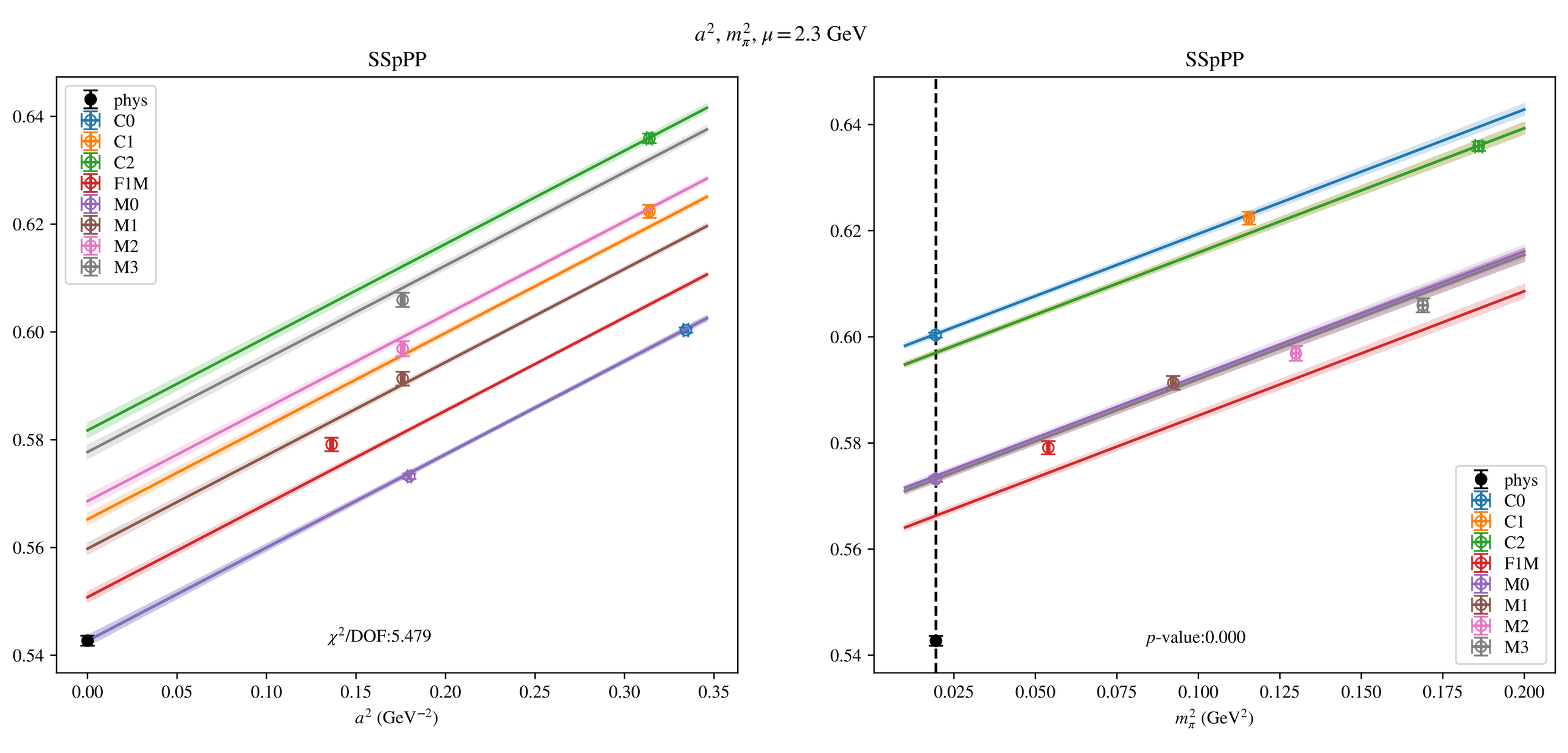
Table 7: Physical point value from chiral and continuum extrapolation at renormalisation scale μ. Entries are **value(error)**: χ^2/DOF (p-value).

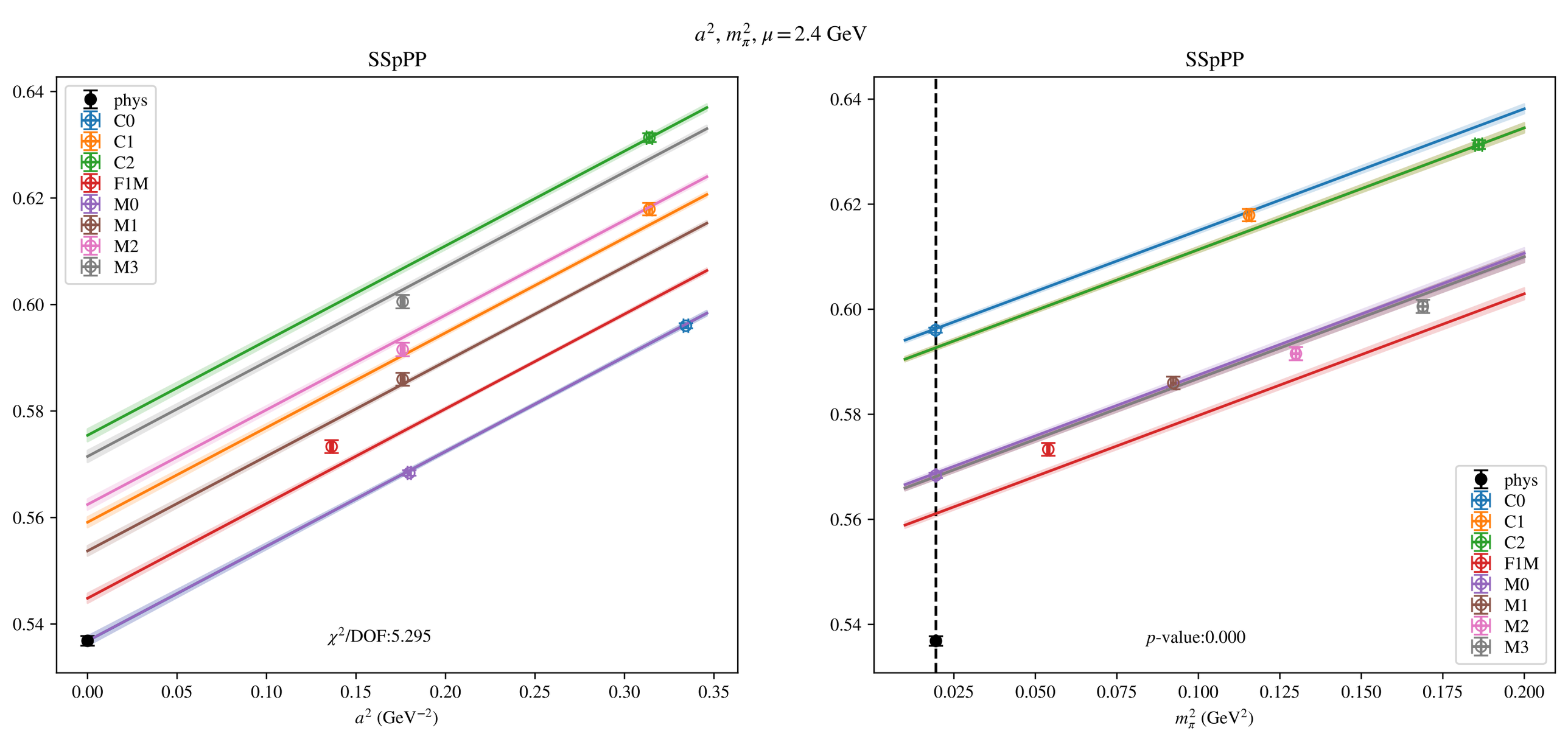
μ (GeV)		a^2, m_π^2	a^2, m_π^2 (no C)	a^2, a^4, m_π^2	a^2, m_π^2, m_π^4
2.0	α	0.2684(65)	0.016(53)	-0.2(12)	0.2762(70)
	β	0.00768(17)	0.00709(26)	0.00744(17)	0.01003(71)
2.2	α	0.3012(70)	0.055(53)	-0.1(13)	0.3090(73)
	β	0.00738(15)	0.00670(24)	0.00719(15)	0.00980(74)
2.3	α	0.3187(71)	0.074(53)	-0.1(13)	0.3262(74)
	β	0.00734(15)	0.00667(24)	0.00715(15)	0.00964(73)
2.4	α	0.3313(71)	0.108(54)	-0.026	0.3384(75)
	β	0.00734(14)	0.00665(22)	0.00718(14)	0.00932(70)

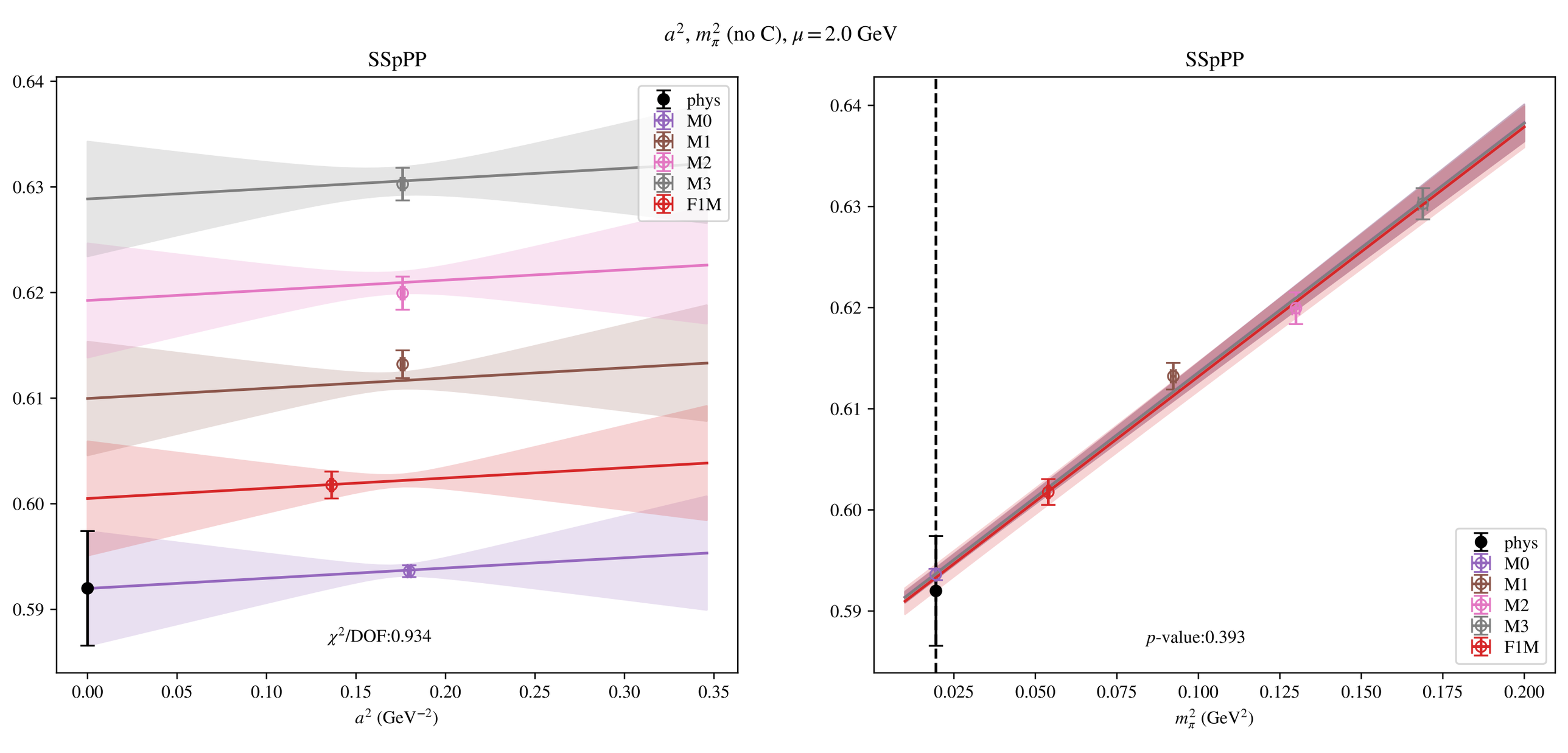
Table 8: Fit values of coefficients in $B = B_{phys} + \alpha a^2 + \beta \left(\frac{m_\pi^2}{f_\pi^2} - \frac{m_{\pi,PDG}^2}{f_\pi^2} \right) + \ldots$.

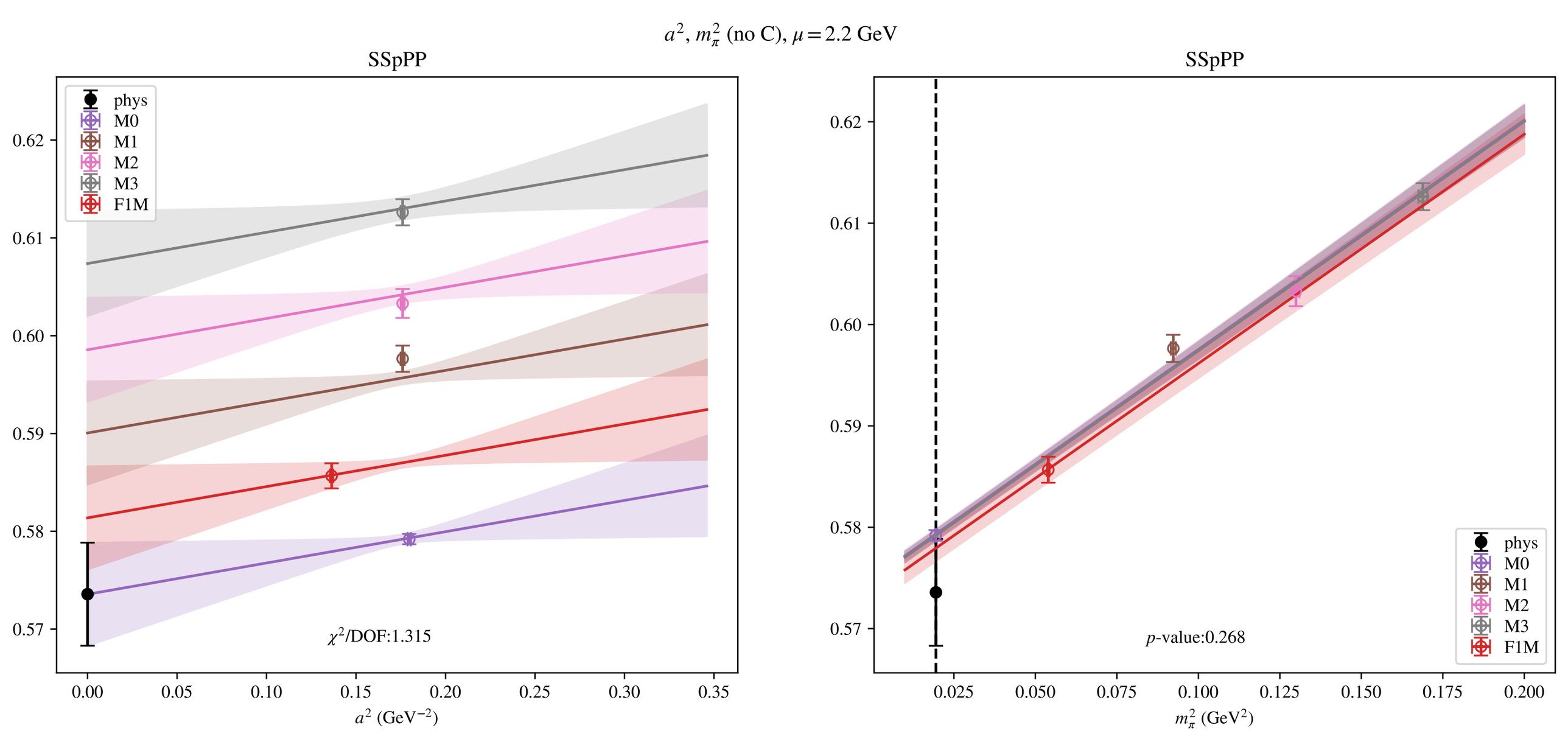

a^2, m_π^2, $\mu = 2.0$ GeV
SSpPP
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.66
0.64
0.62
0.60
0.58
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
χ^2/DOF:5.155
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
p-value:0.000

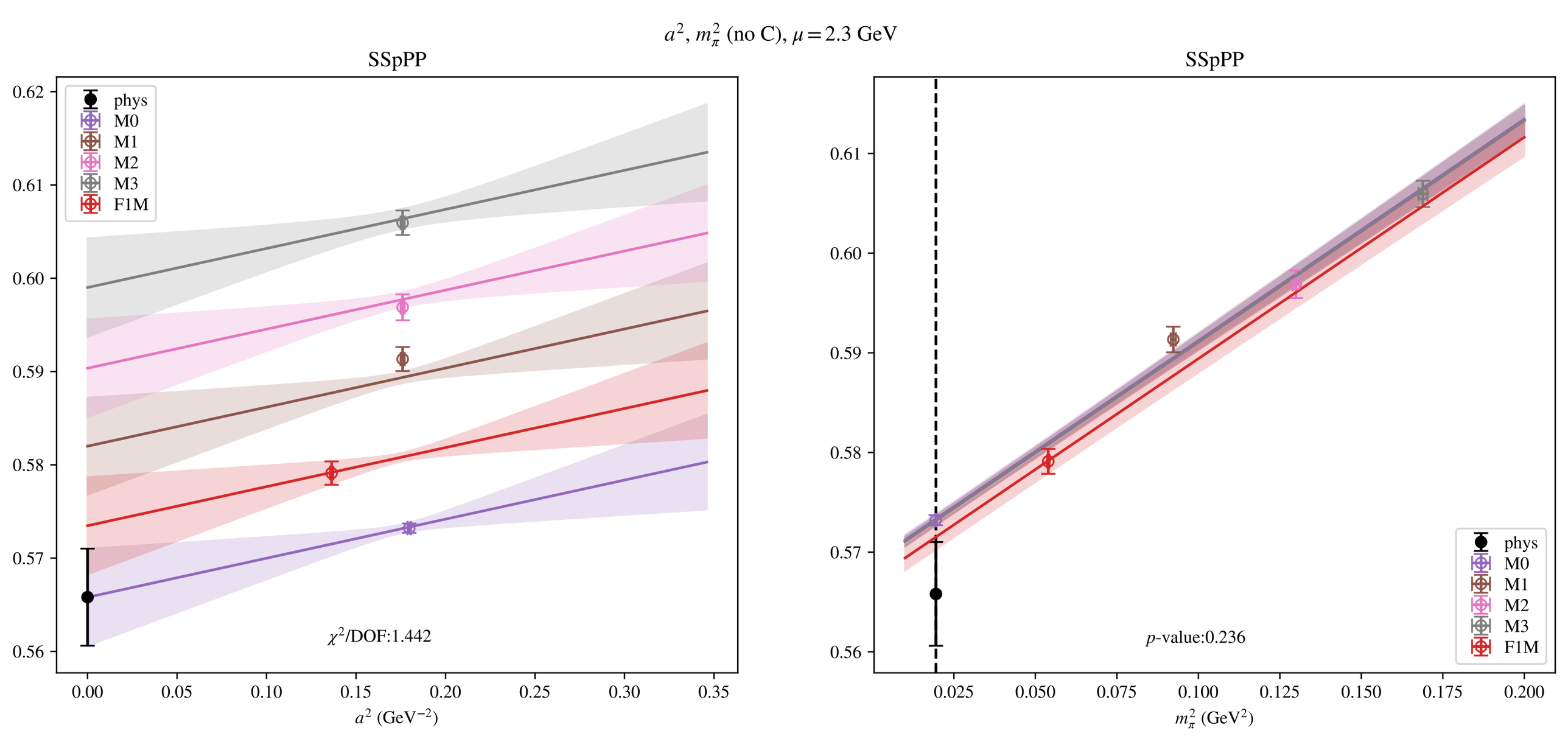

a^2, m_π^2, $\mu = 2.2$ GeV
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.64
0.62
0.60
0.58
0.56
χ^2/DOF:5.515
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSpPP
0.64
0.62
0.60
0.58
0.56
p-value:0.000
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

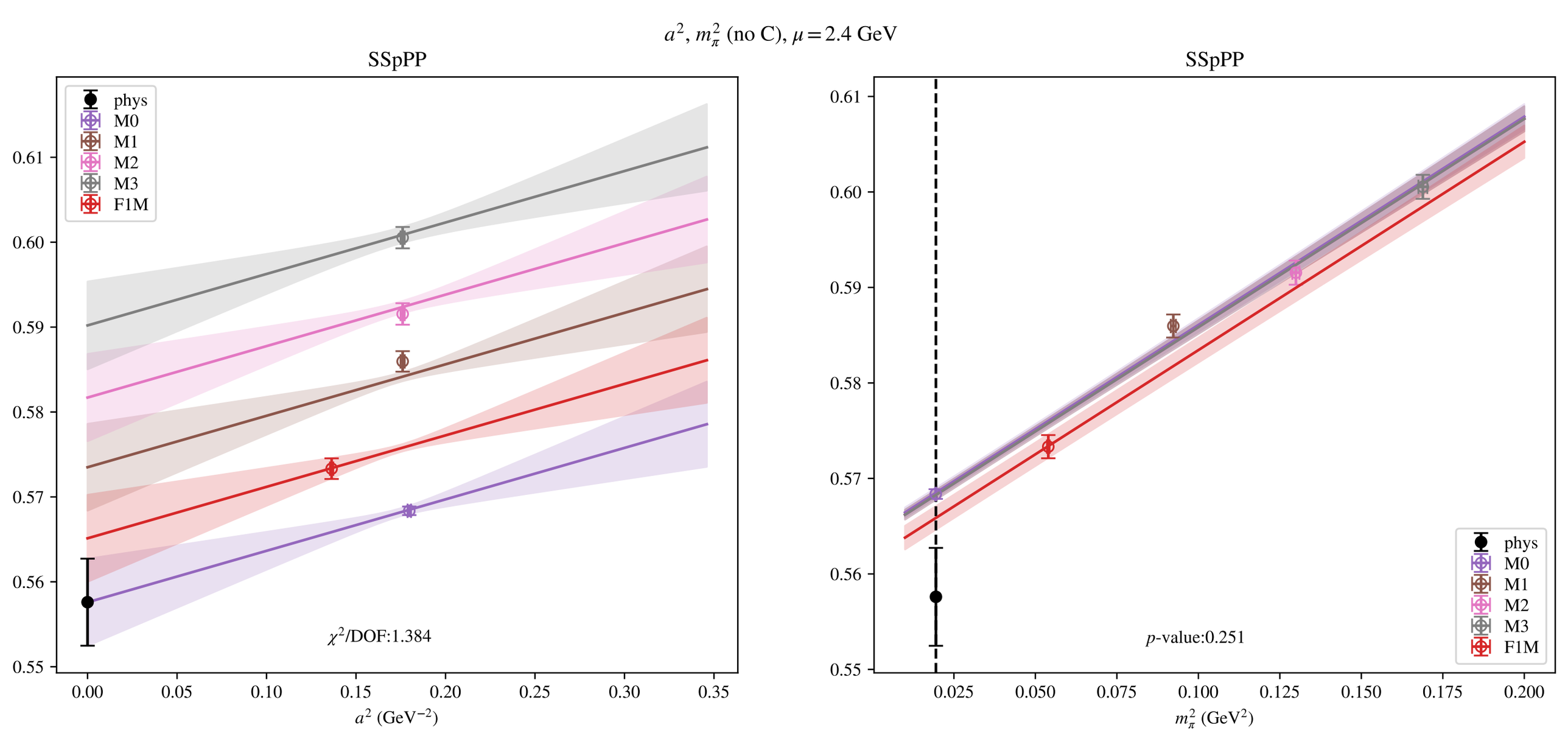

a^2, m_π^2, $\mu = 2.3$ GeV
SSpPP
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.64
0.62
0.60
0.58
0.56
0.54
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
χ^2/DOF:5.479
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
p-value:0.000

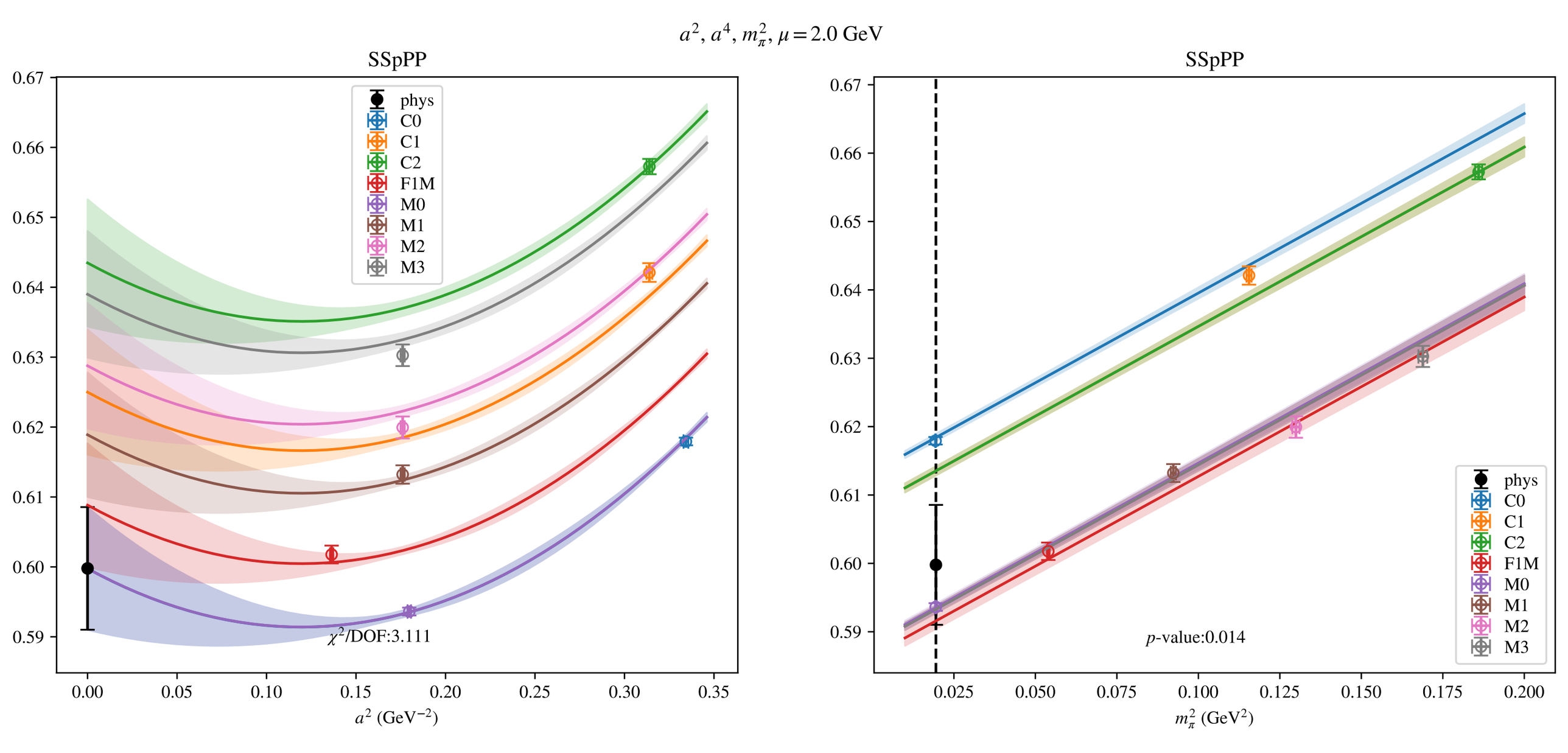

a^2, m_π^2, $\mu = 2.4$ GeV
SSpPP
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:5.295
p-value:0.000
a^2 (GeV^{-2})
m_π^2 (GeV^2)
0.64
0.62
0.60
0.58
0.56
0.54
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200

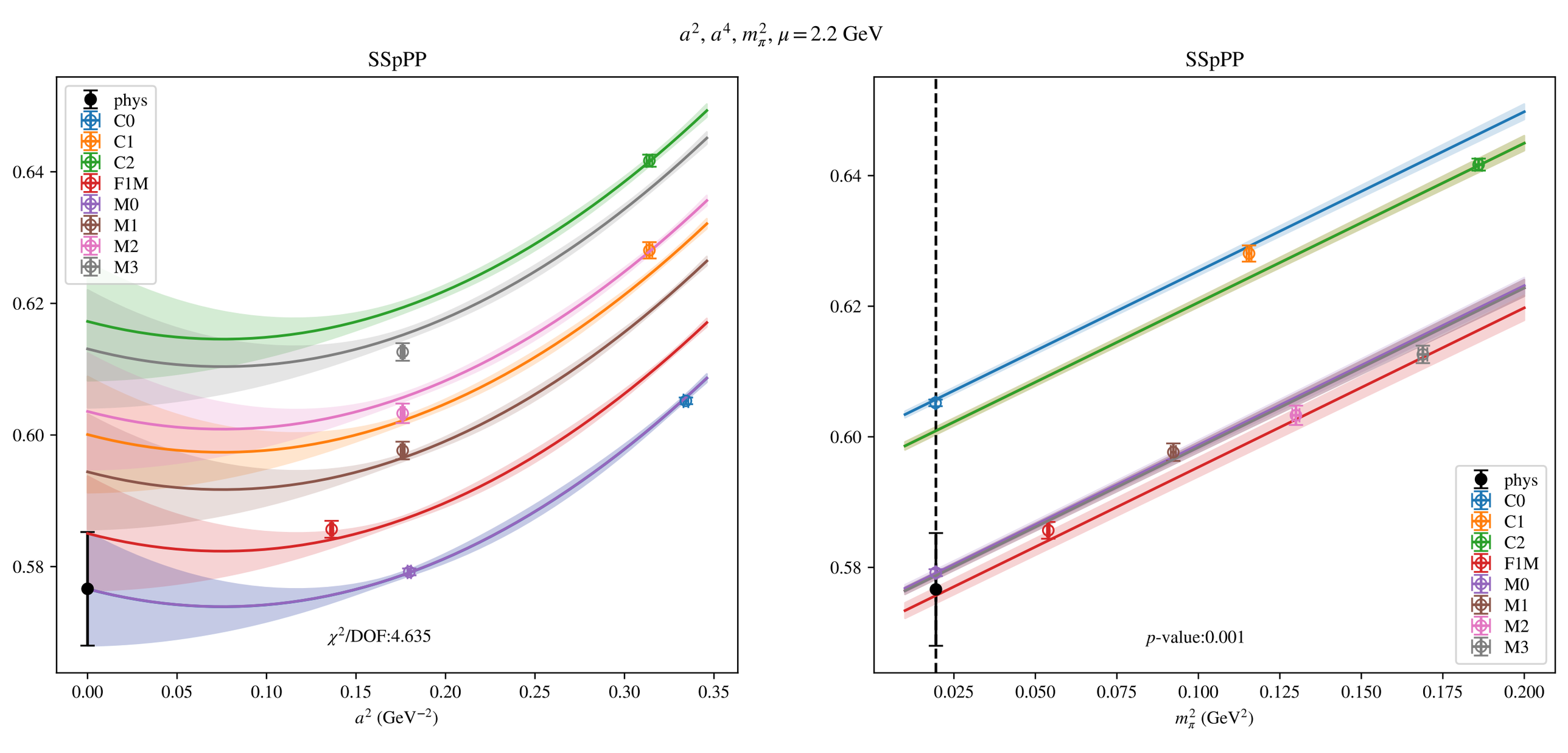

a^2, m_π^2 (no C), $\mu = 2.0$ GeV
SSpPP
0.64
0.63
0.62
0.61
0.60
0.59
phys
M0
M1
M2
M3
F1M
χ^2/DOF:0.934
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSpPP
0.64
0.63
0.62
0.61
0.60
0.59
p-value:0.393
phys
M0
M1
M2
M3
F1M
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

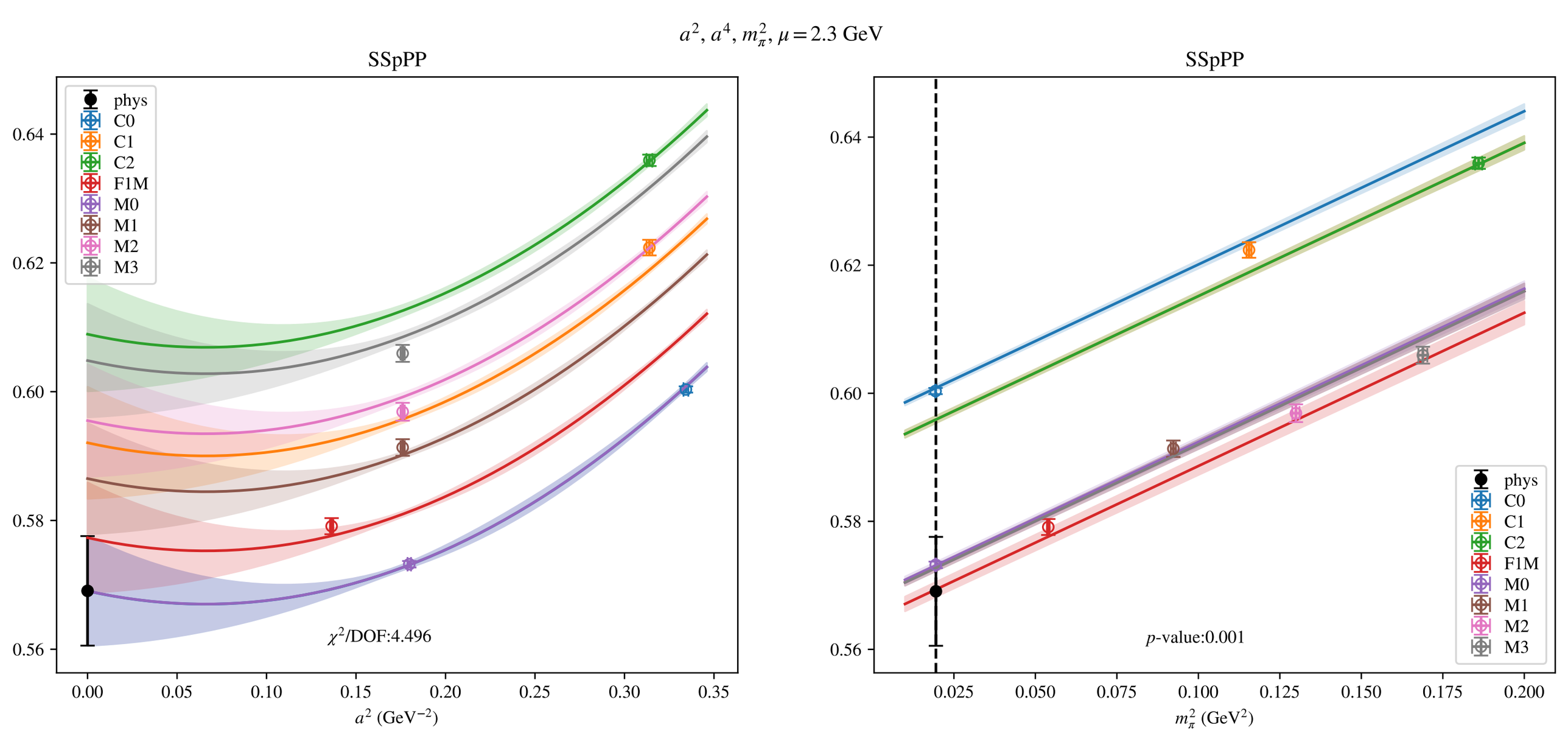

a^2, m_π^2 (no C), $\mu = 2.2$ GeV
SSpPP
phys
M0
M1
M2
M3
F1M
0.62
0.61
0.60
0.59
0.58
0.57
χ^2/DOF:1.315
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSpPP
0.62
0.61
0.60
0.59
0.58
0.57
p-value:0.268
phys
M0
M1
M2
M3
F1M
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

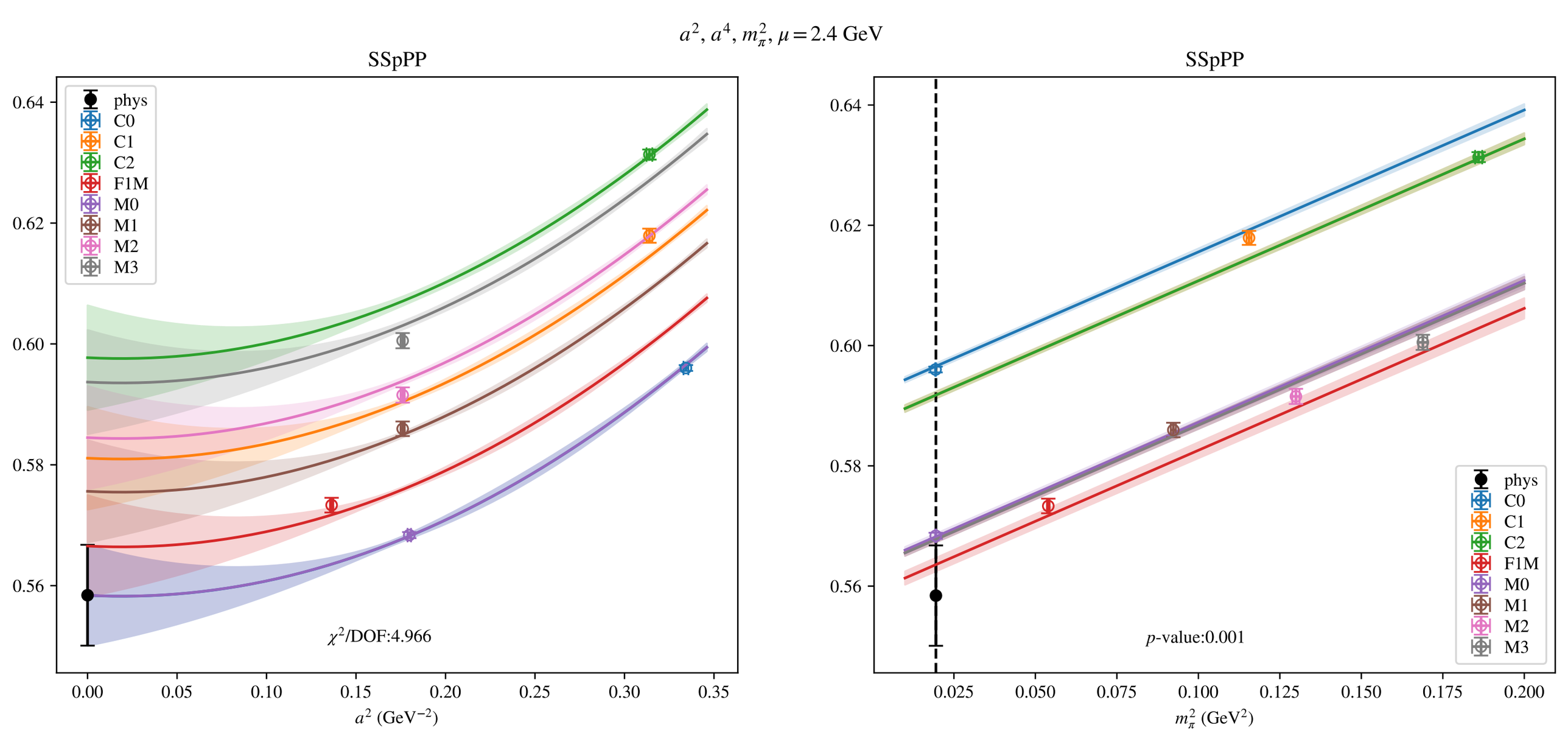

a^2, m_π^2 (no C), $\mu = 2.3$ GeV
SSpPP
phys
M0
M1
M2
M3
F1M
χ^2/DOF:1.442
a^2 (GeV^{-2})
SSpPP
p-value:0.236
m_π^2 (GeV^2)

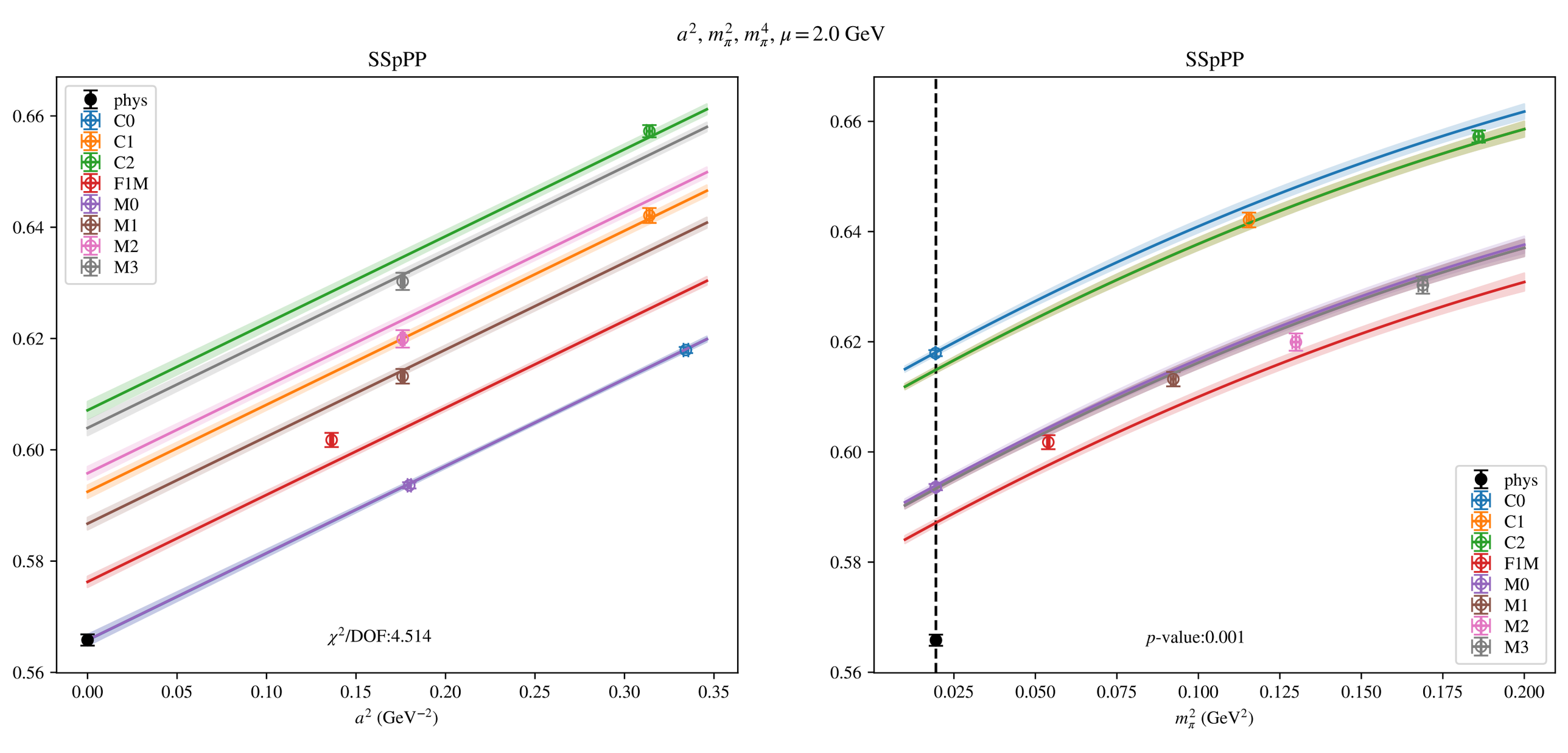

a^2, m_π^2 (no C), $\mu = 2.4$ GeV
SSpPP
phys
M0
M1
M2
M3
F1M
χ^2/DOF:1.384
a^2 (GeV^{-2})
SSpPP
p-value:0.251
m_π^2 (GeV^2)

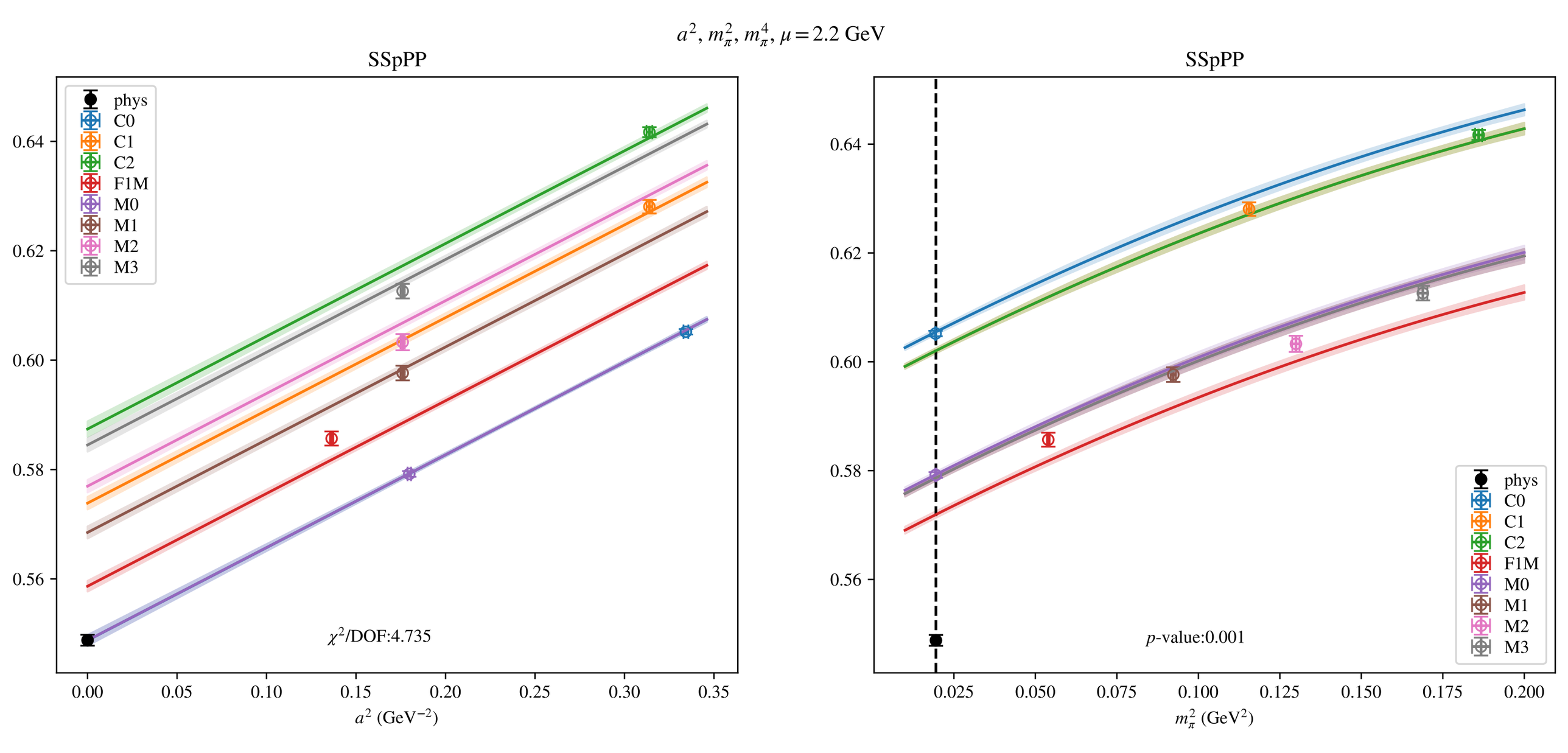

a^2, a^4, m_π^2, $\mu = 2.0$ GeV
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:3.111
a^2 (GeV^{-2})
SSpPP
p-value:0.014
m_π^2 (GeV^2)

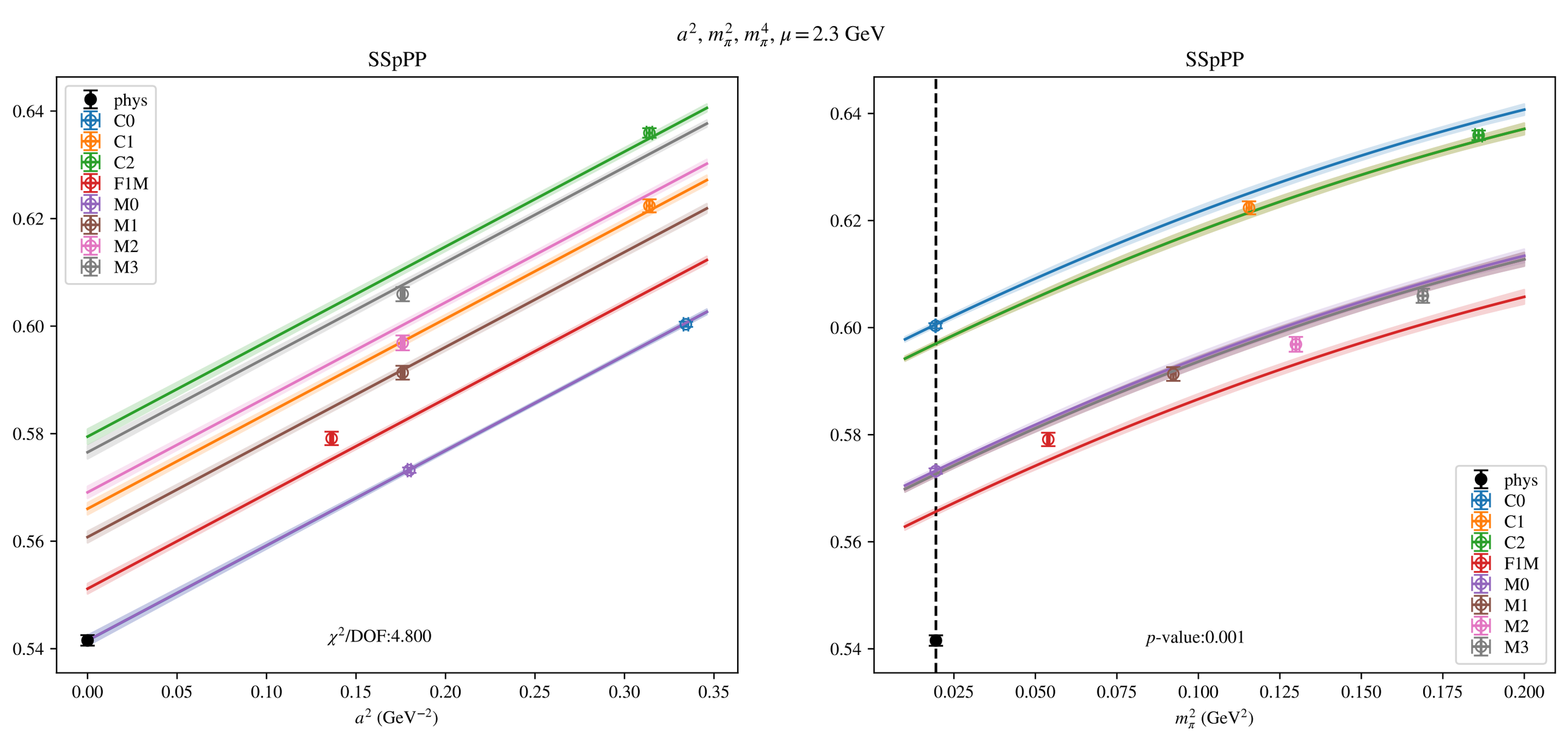

a^2, a^4, m_π^2, $\mu = 2.2$ GeV
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.64
0.62
0.60
0.58
χ^2/DOF:4.635
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSpPP
0.64
0.62
0.60
0.58
p-value:0.001
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

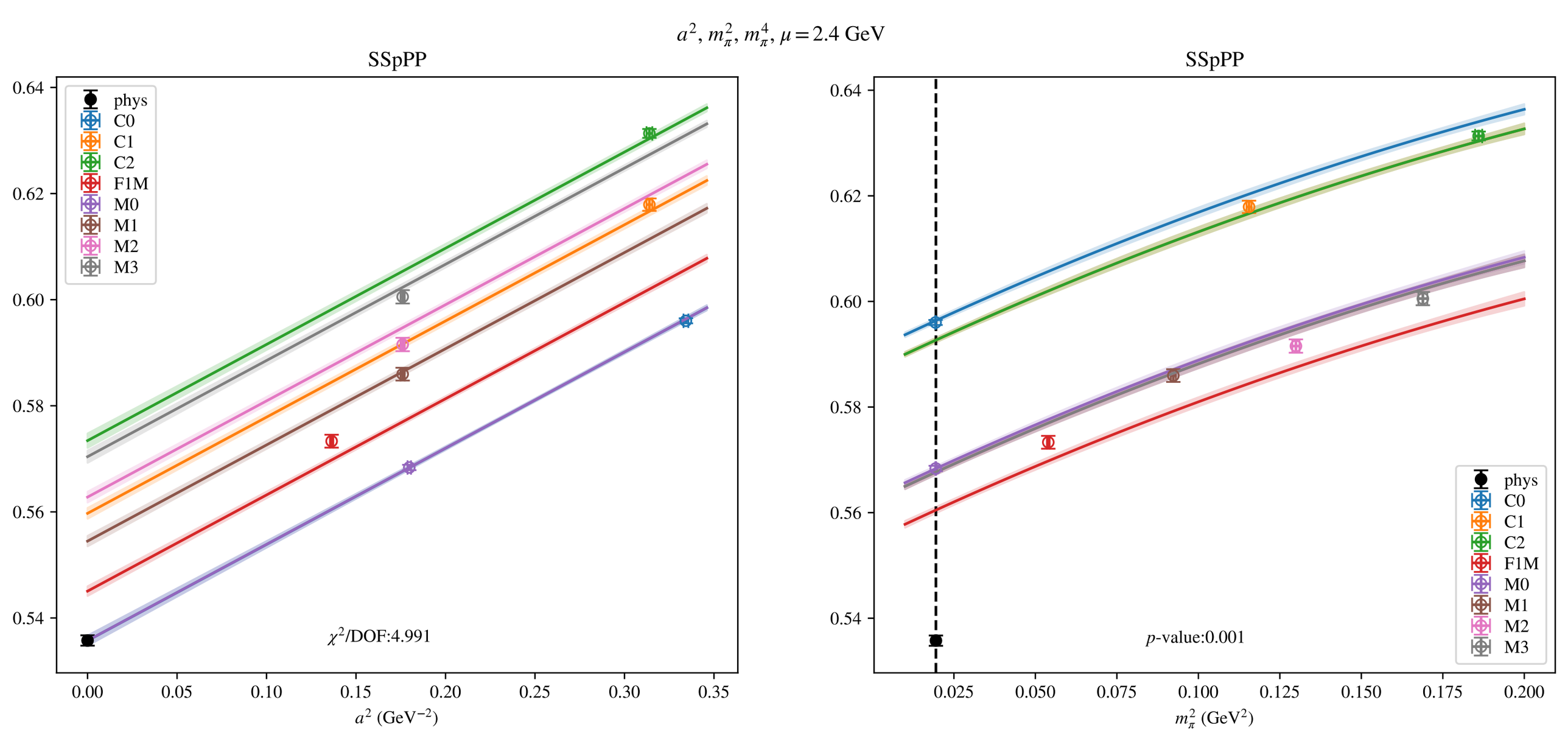

$a^2, a^4, m_\pi^2, \mu = 2.3$ GeV
SSpPP
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.64
0.62
0.60
0.58
0.56
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
χ^2/DOF:4.496
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
p-value:0.001


$a^2, a^4, m_\pi^2, \mu = 2.4$ GeV
SSpPP
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:4.966
p-value:0.001
a^2 (GeV^{-2})
m_π^2 (GeV^2)
0.64
0.62
0.60
0.58
0.56
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200


$a^2, m_\pi^2, m_\pi^4, \mu = 2.0$ GeV
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.66
0.64
0.62
0.60
0.58
0.56
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
χ^2/DOF:4.514
SSpPP
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
p-value:0.001


$a^2, m_\pi^2, m_\pi^4, \mu = 2.2$ GeV
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.64
0.62
0.60
0.58
0.56
χ^2/DOF:4.735
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
SSpPP
0.64
0.62
0.60
0.58
0.56
p-value:0.001
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)


$a^2, m_\pi^2, m_\pi^4, \mu = 2.3$ GeV
SSpPP
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
0.64
0.62
0.60
0.58
0.56
0.54
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
χ^2/DOF:4.800
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
p-value:0.001


$a^2, m_\pi^2, m_\pi^4, \mu = 2.4$ GeV
SSpPP
SSpPP
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:4.991
p-value:0.001
a^2 (GeV^{-2})
m_π^2 (GeV^2)
0.64
0.62
0.60
0.58
0.56
0.54
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200

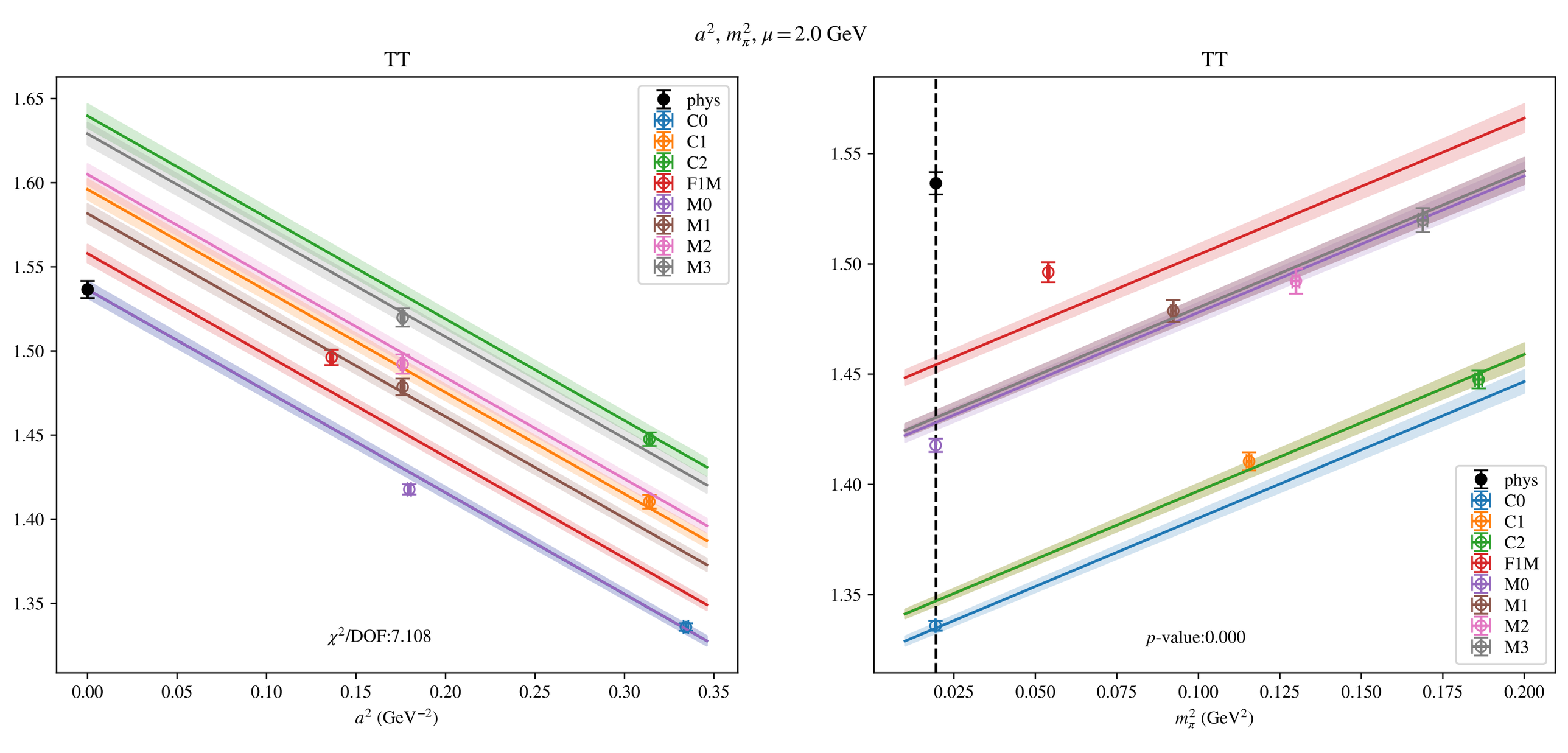
5 B_5

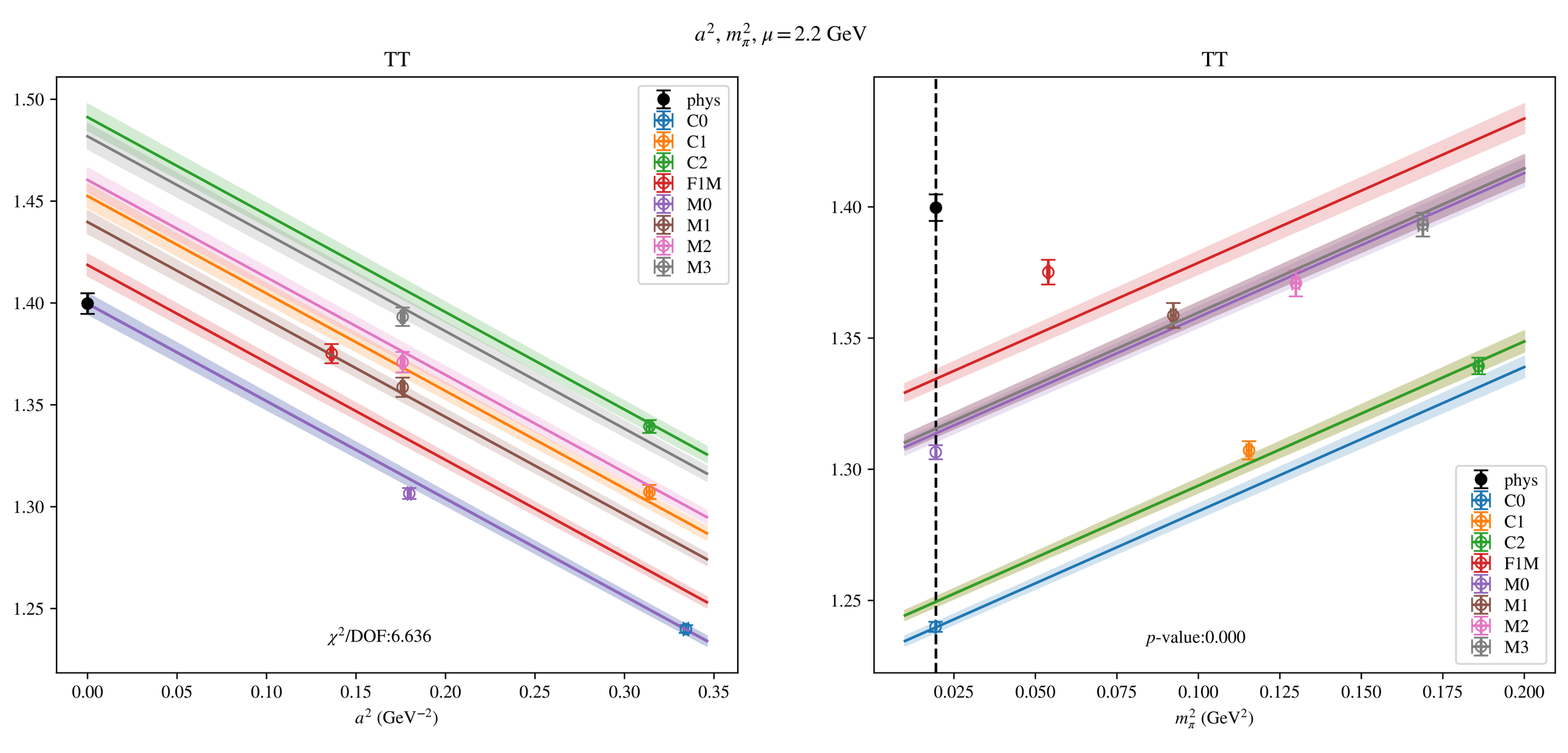
μ (GeV)	a^2, m_π^2	a^2, m_π^2 (no C)	a^2, a^4, m_π^2	a^2, m_π^2, m_π^4
2.0	**1.5365(50)**: 7.108 (0.0)	**1.646(14)**: 1.437 (0.238)	**1.718(23)**: 1.823 (0.121)	**1.5294(49)**: 6.645 (0.0)
2.2	**1.3997(50)**: 6.636 (0.0)	**1.509(14)**: 1.143 (0.319)	**1.560(23)**: 2.668 (0.03)	**1.3939(47)**: 6.083 (0.0)
2.3	**1.3431(45)**: 7.834 (0.0)	**1.453(13)**: 1.046 (0.351)	**1.509(21)**: 2.449 (0.044)	**1.3375(42)**: 7.202 (0.0)
2.4	**1.2987(43)**: 6.997 (0.0)	**1.393(12)**: 0.986 (0.373)	**1.435(20)**: 3.057 (0.016)	**1.2933(41)**: 6.619 (0.0)

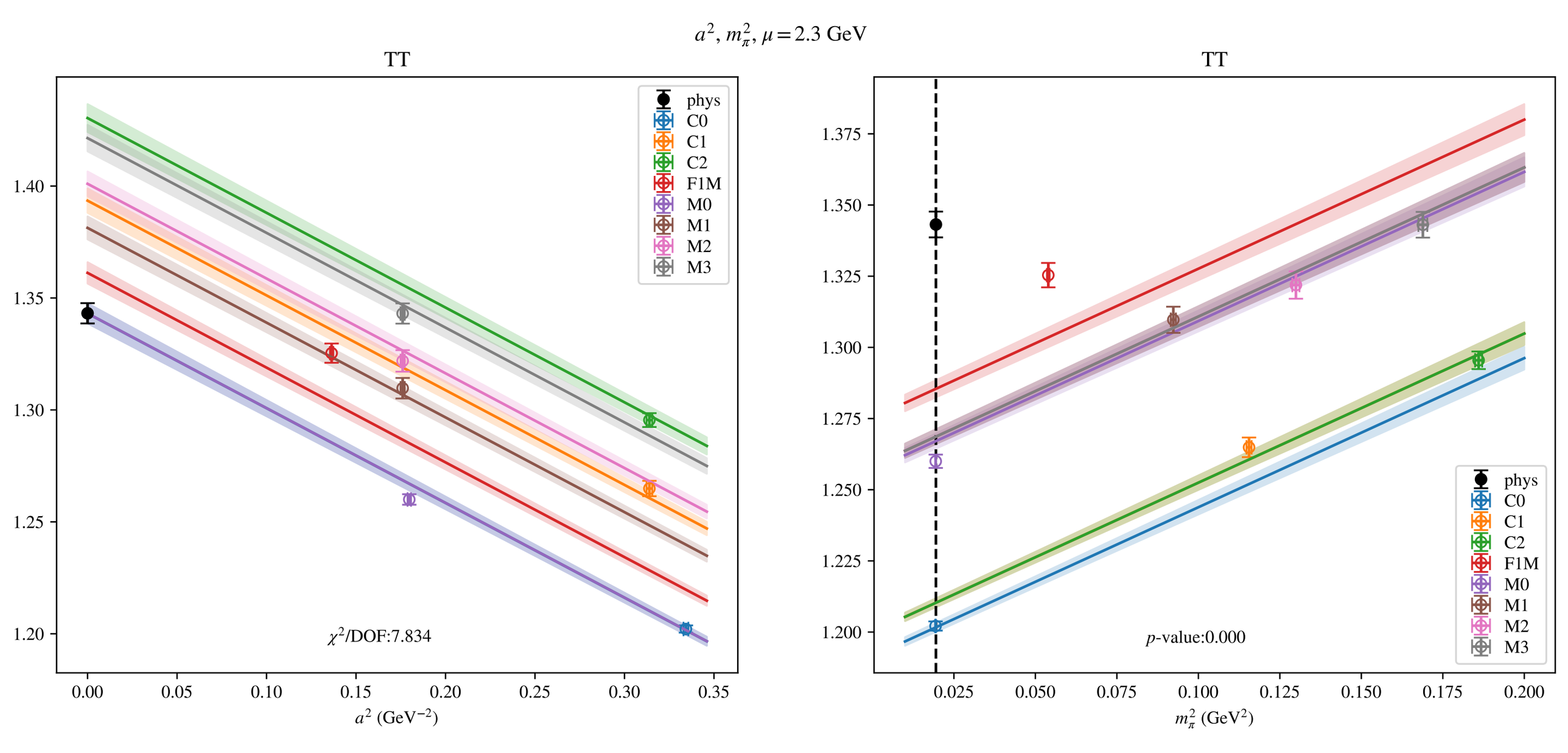
Table 9: Physical point value from chiral and continuum extrapolation at renormalisation scale μ. Entries are **value(error)**: χ^2/DOF (p-value).

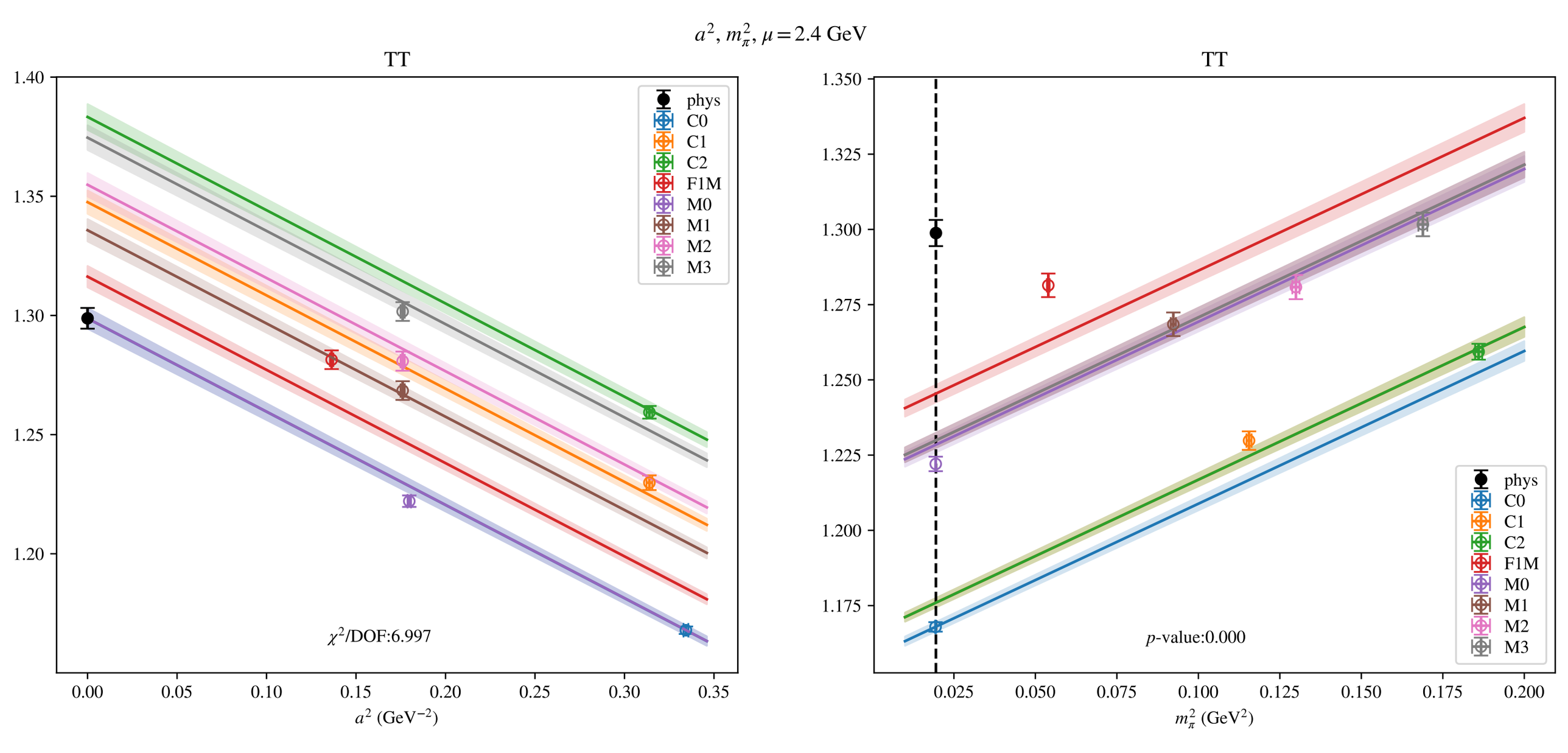
μ (GeV)		a^2, m_π^2	a^2, m_π^2 (no C)	a^2, a^4, m_π^2	a^2, m_π^2, m_π^4
2.0	α	-0.392(54)	-0.76(44)	-1.3(10)	-0.381(56)
	β	0.00685(17)	0.00677(25)	0.00664(15)	0.01031(64)
2.2	α	-0.341(62)	-0.74(44)	-1.2(10)	-0.331(62)
	β	0.00667(14)	0.00627(22)	0.00646(12)	0.00995(68)
2.3	α	-0.315(63)	-0.73(44)	-1.2(10)	-0.304(61)
	β	0.00663(17)	0.00626(25)	0.00639(14)	0.01016(71)
2.4	α	-0.301(63)	-0.68(45)	-1.1(10)	-0.290(64)
	β	0.00664(13)	0.00623(20)	0.00647(12)	0.00964(64)

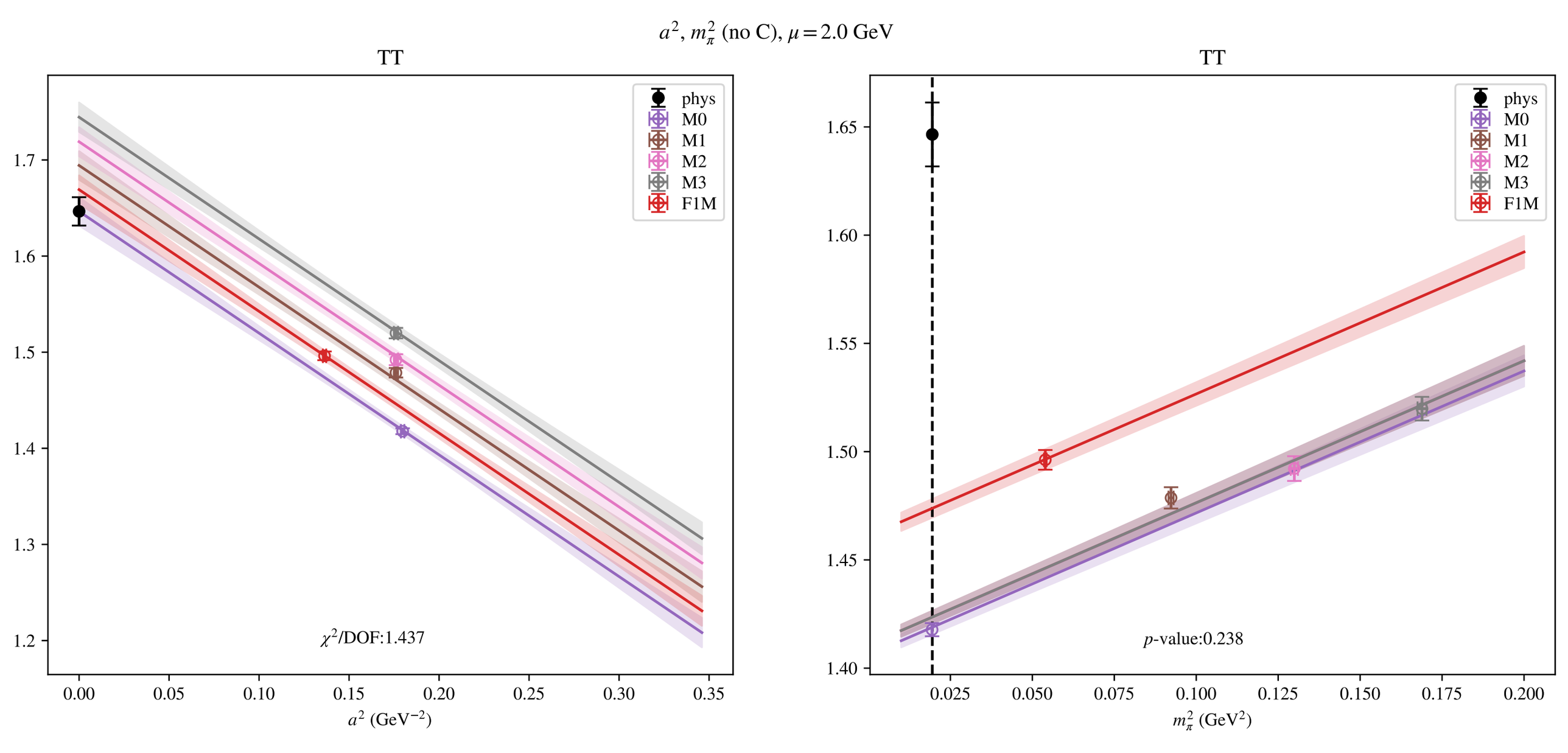
Table 10: Fit values of coefficients in $B = B_{phys} + \alpha a^2 + \beta \left(\frac{m_\pi^2}{f_\pi^2} - \frac{m_{\pi,PDG}^2}{f_\pi^2} \right) + \ldots$.

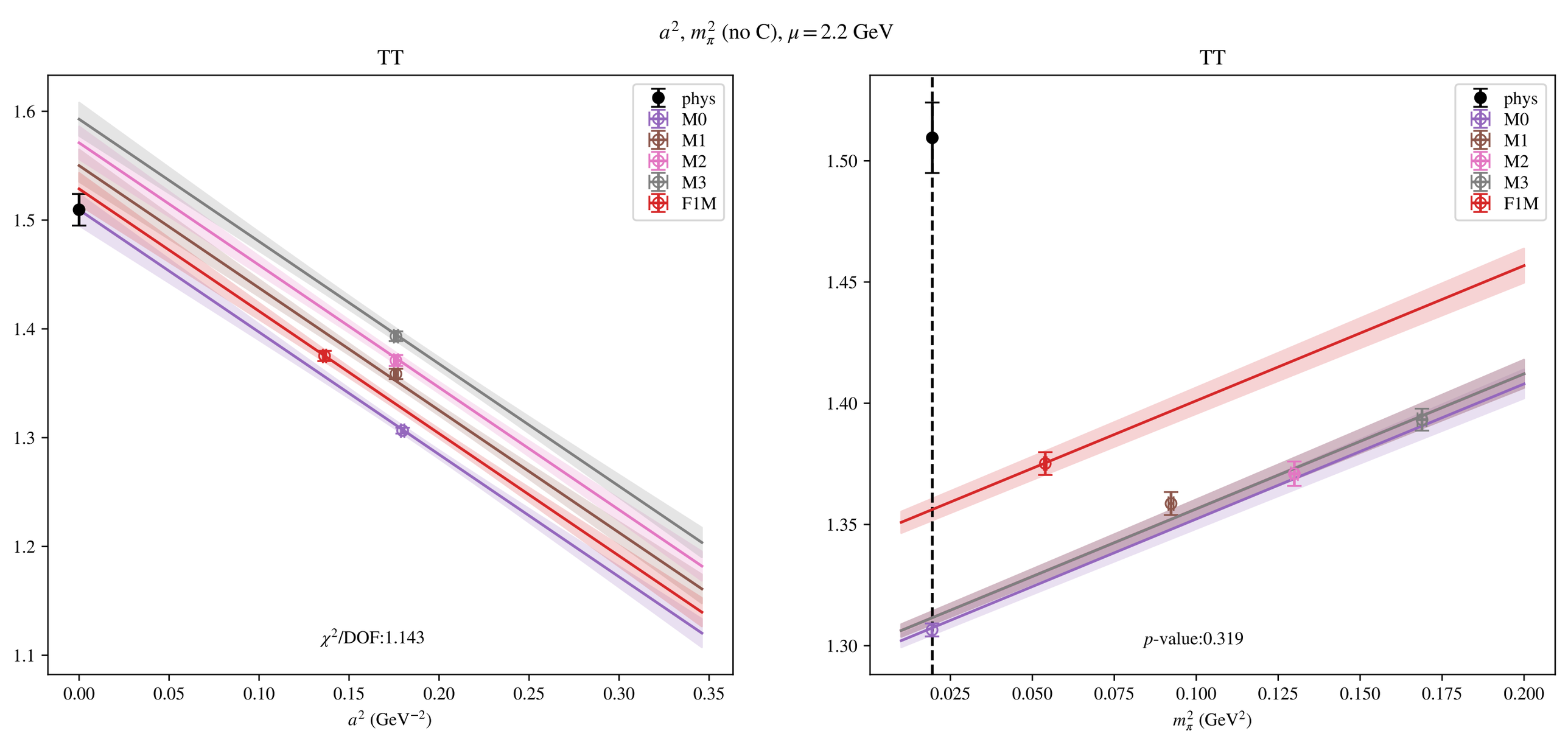

$a^2, m_\pi^2, \mu = 2.0$ GeV
TT
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:7.108
p-value:0.000
a^2 (GeV^{-2})
m_π^2 (GeV^2)

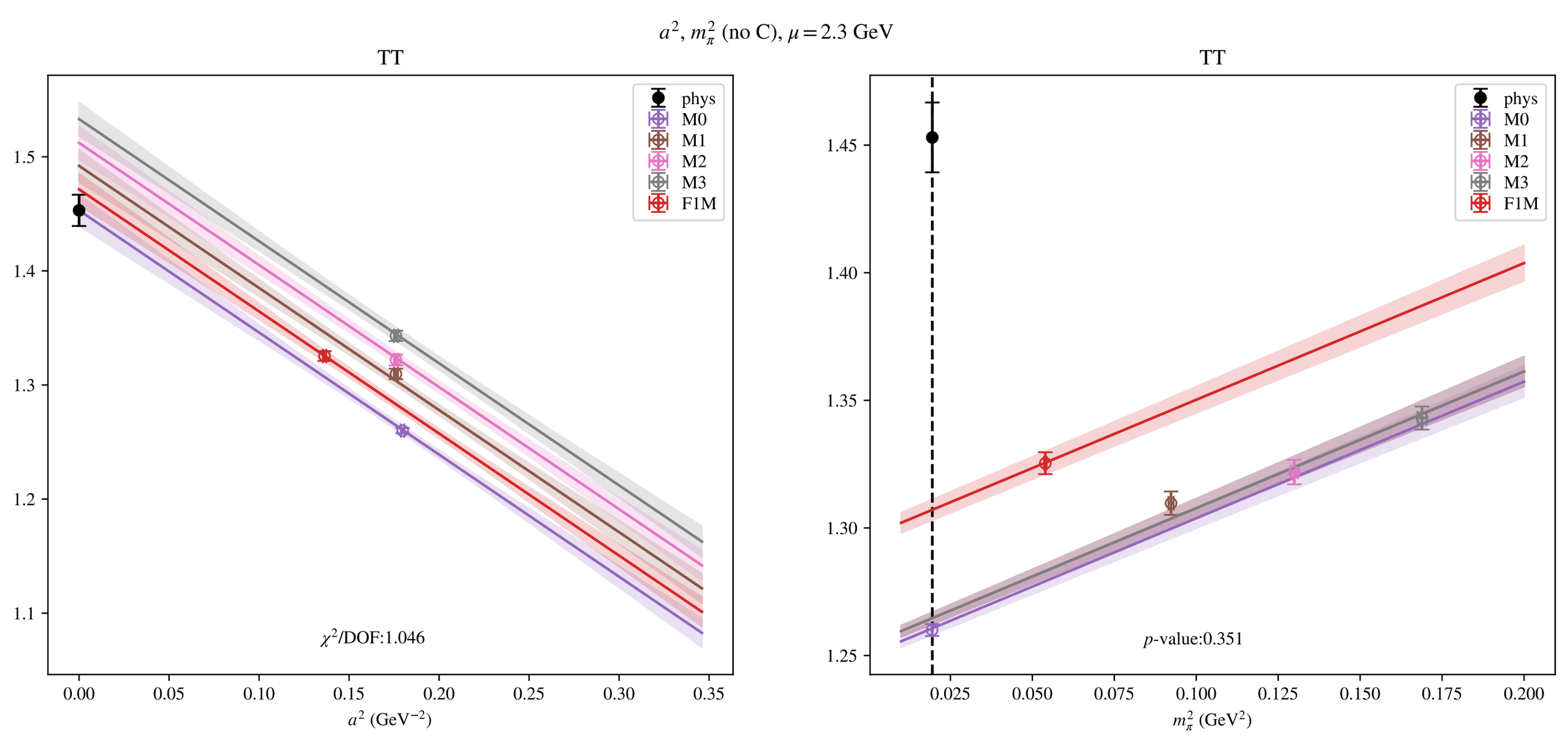

$a^2, m_\pi^2, \mu = 2.2$ GeV
TT
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:6.636
p-value:0.000
a^2 (GeV^{-2})
m_π^2 (GeV^2)
1.50
1.45
1.40
1.35
1.30
1.25
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200

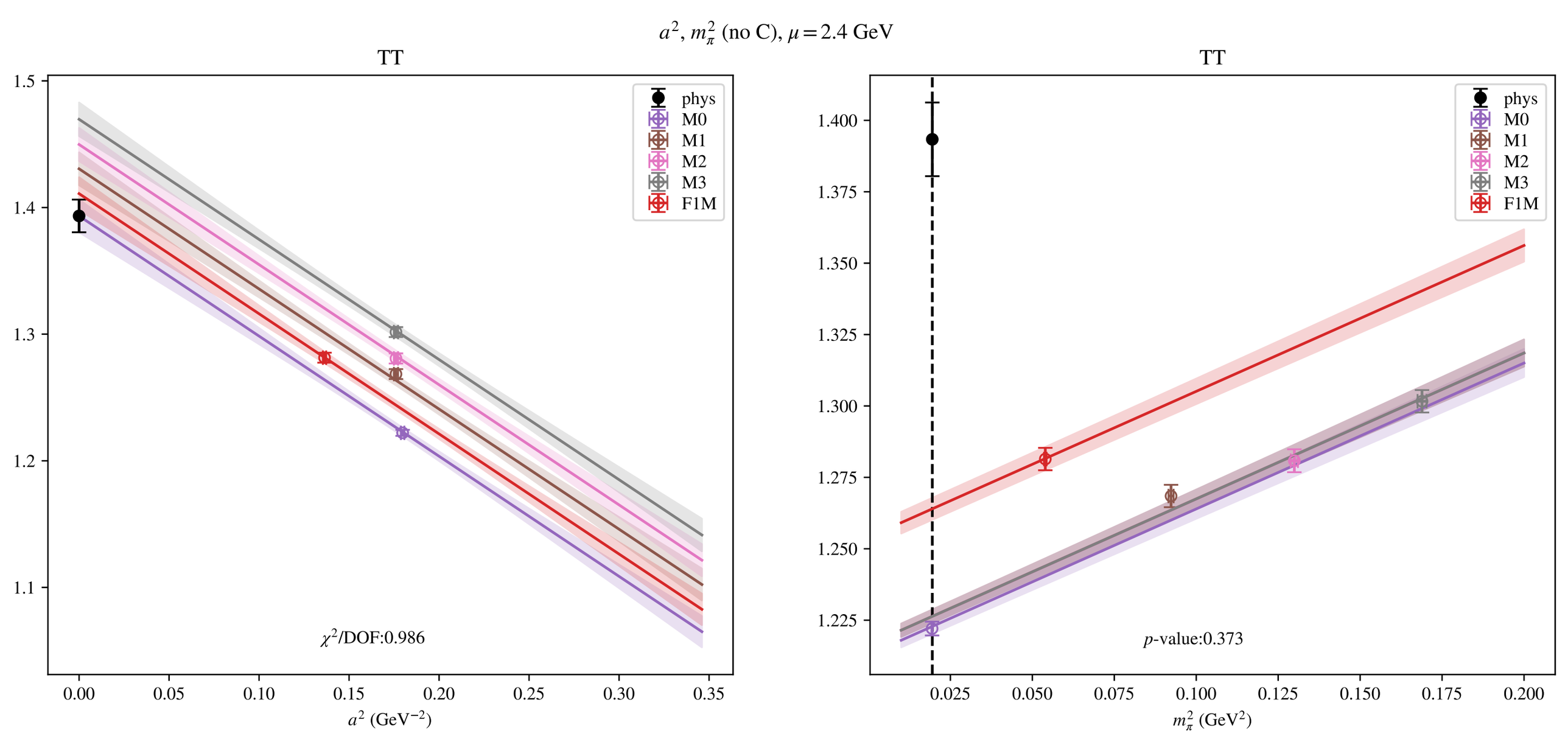

$a^2, m_\pi^2, \mu = 2.3$ GeV
TT
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
1.40
1.35
1.30
1.25
1.20
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
χ^2/DOF:7.834
1.375
1.350
1.325
1.300
1.275
1.250
1.225
1.200
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
p-value:0.000

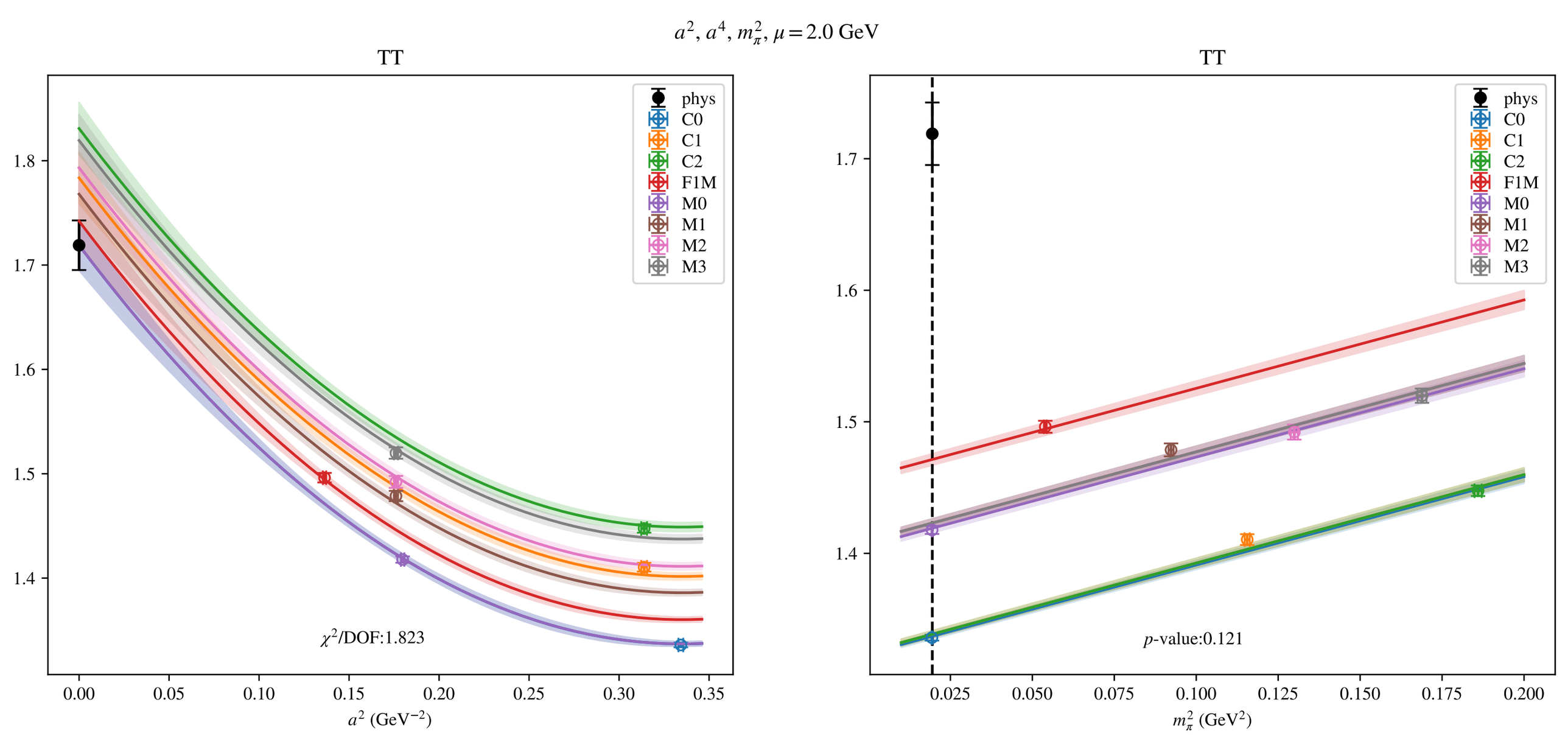

$a^2, m_\pi^2, \mu = 2.4$ GeV
TT
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:6.997
p-value:0.000
a^2 (GeV^{-2})
m_π^2 (GeV^2)
1.40
1.35
1.30
1.25
1.20
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
1.350
1.325
1.300
1.275
1.250
1.225
1.200
1.175
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200

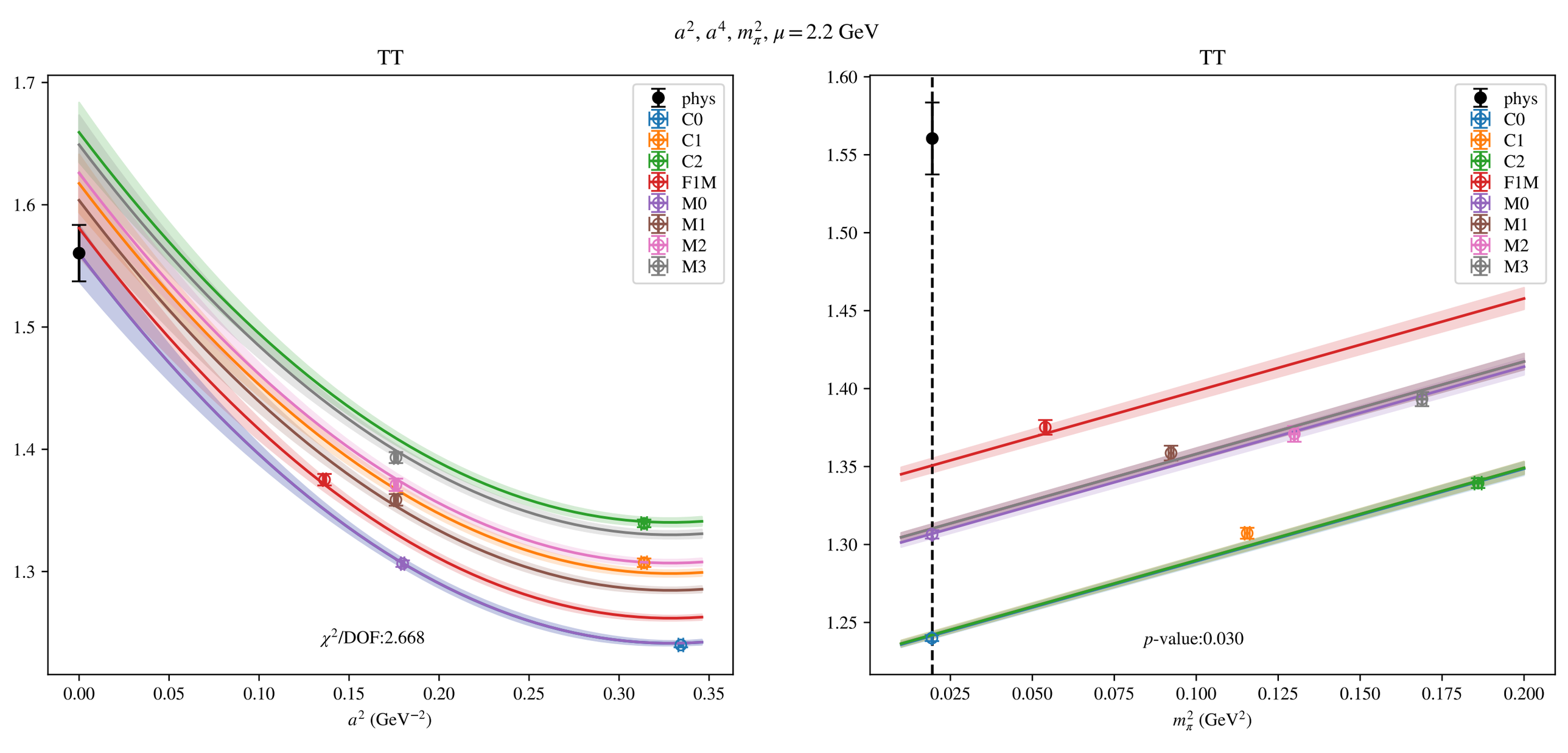

a^2, m_π^2 (no C), $\mu = 2.0$ GeV
TT
phys
M0
M1
M2
M3
F1M
χ^2/DOF:1.437
a^2 (GeV^{-2})
TT
phys
M0
M1
M2
M3
F1M
p-value:0.238
m_π^2 (GeV^2)

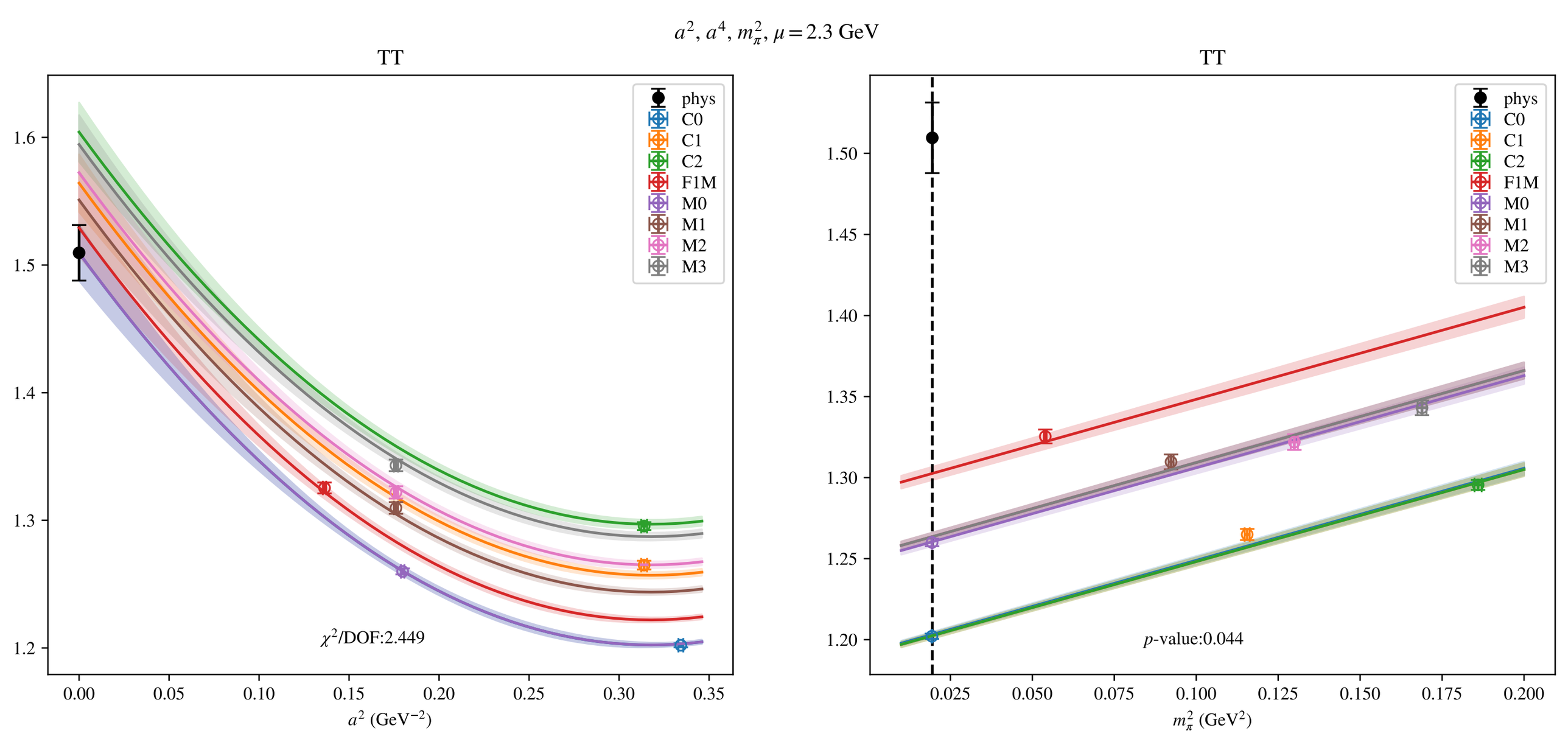

a^2, m_π^2 (no C), $\mu = 2.2$ GeV
TT
phys
M0
M1
M2
M3
F1M
χ^2/DOF:1.143
a^2 (GeV^{-2})
TT
phys
M0
M1
M2
M3
F1M
p-value:0.319
m_π^2 (GeV^2)

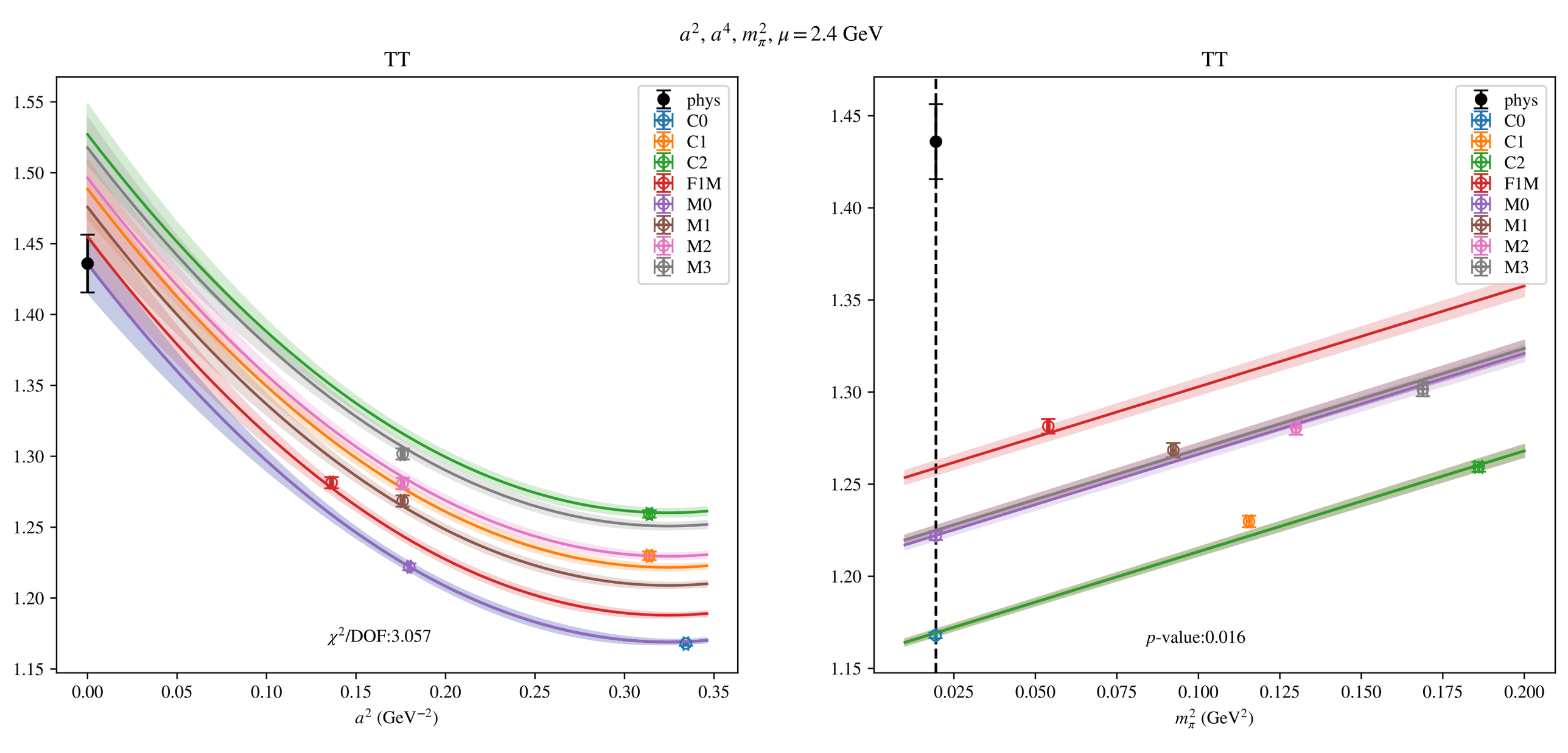

a^2, m_π^2 (no C), $\mu = 2.3$ GeV
TT
phys
M0
M1
M2
M3
F1M
χ^2/DOF:1.046
a^2 (GeV^{-2})
TT
phys
M0
M1
M2
M3
F1M
p-value:0.351
m_π^2 (GeV^2)

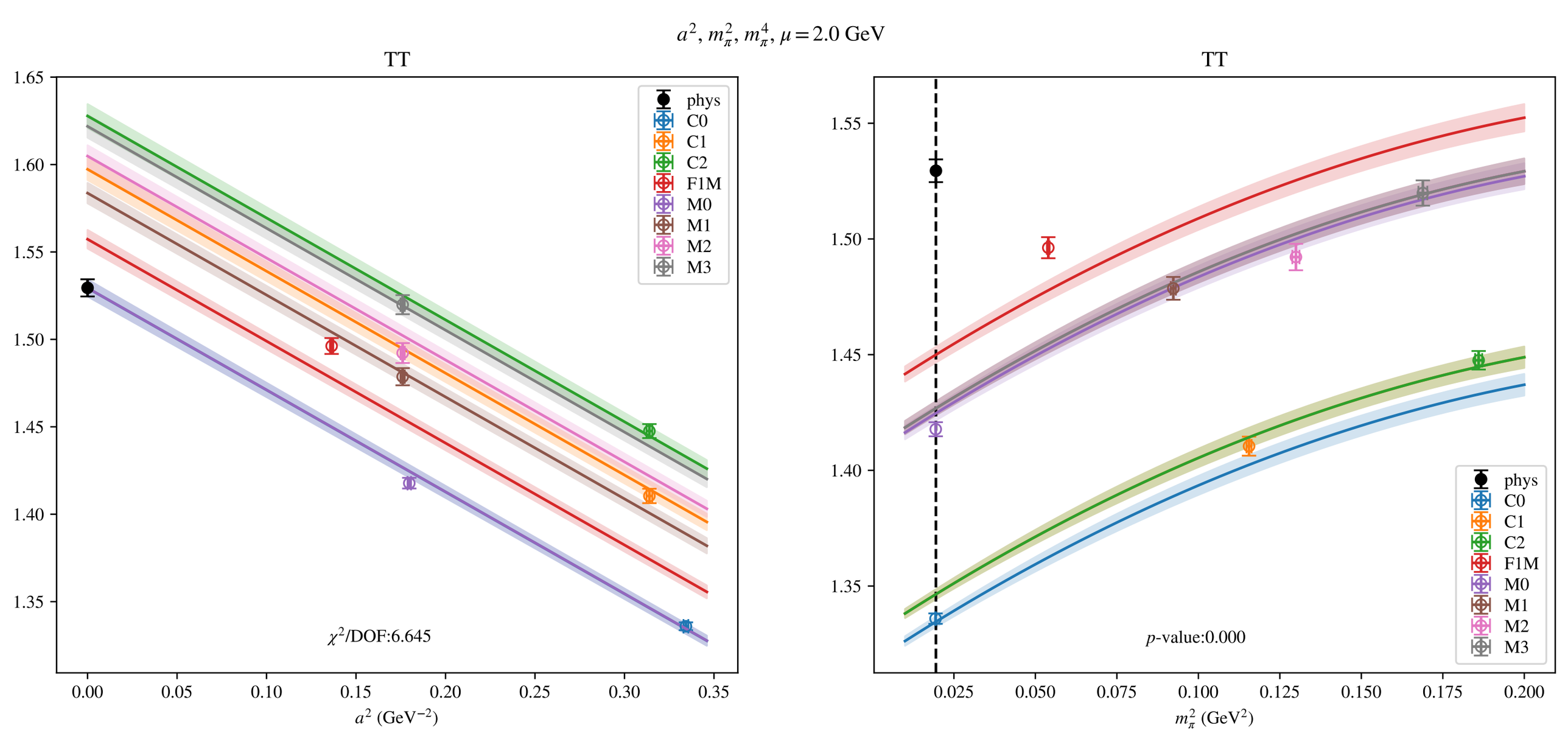

a^2, m_π^2 (no C), $\mu = 2.4$ GeV
TT
phys
M0
M1
M2
M3
F1M
χ^2/DOF:0.986
a^2 (GeV^{-2})
TT
phys
M0
M1
M2
M3
F1M
p-value:0.373
m_π^2 (GeV^2)

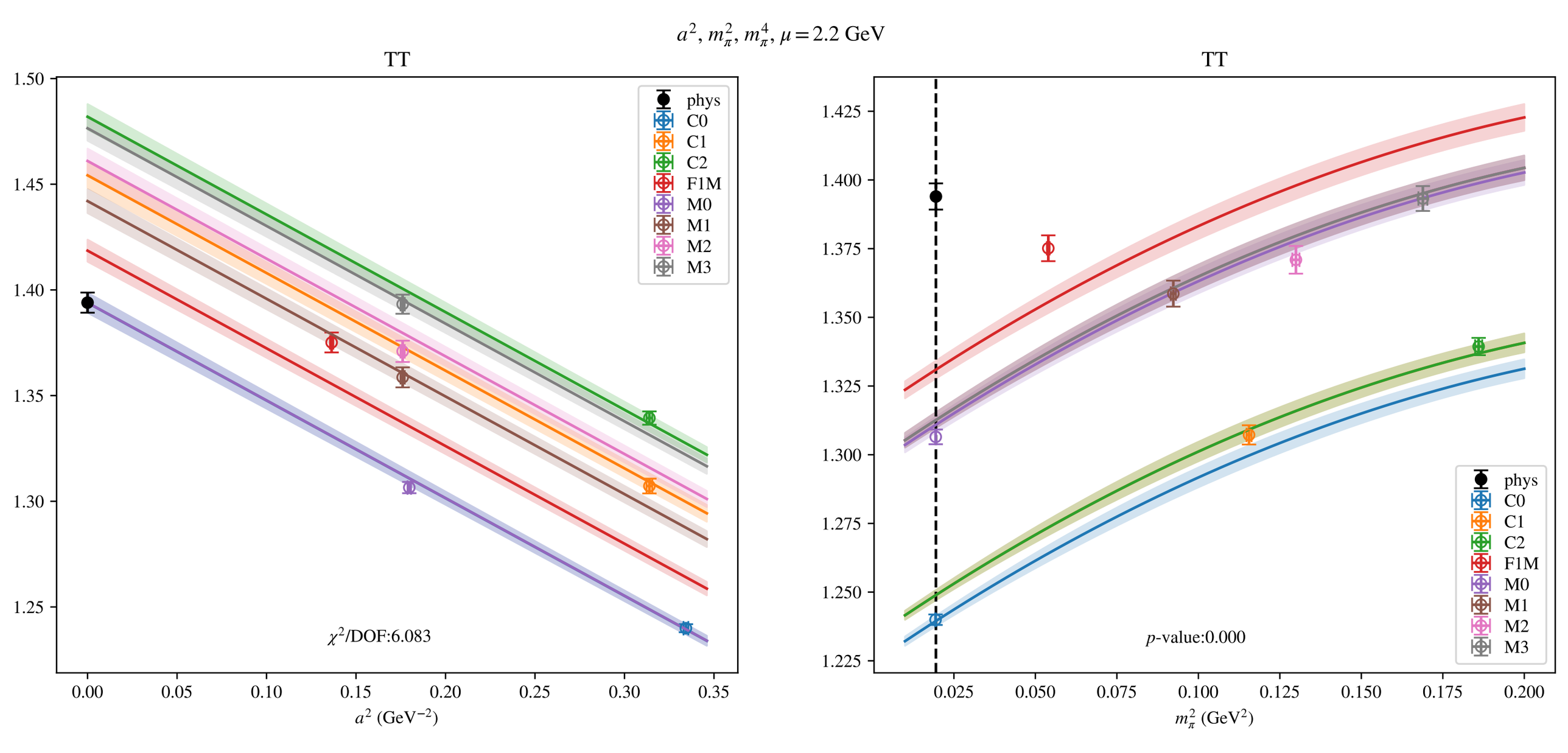

$a^2, a^4, m_\pi^2, \mu = 2.0$ GeV
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
1.8
1.7
1.6
1.5
1.4
χ^2/DOF:1.823
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
1.7
1.6
1.5
1.4
p-value:0.121
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)

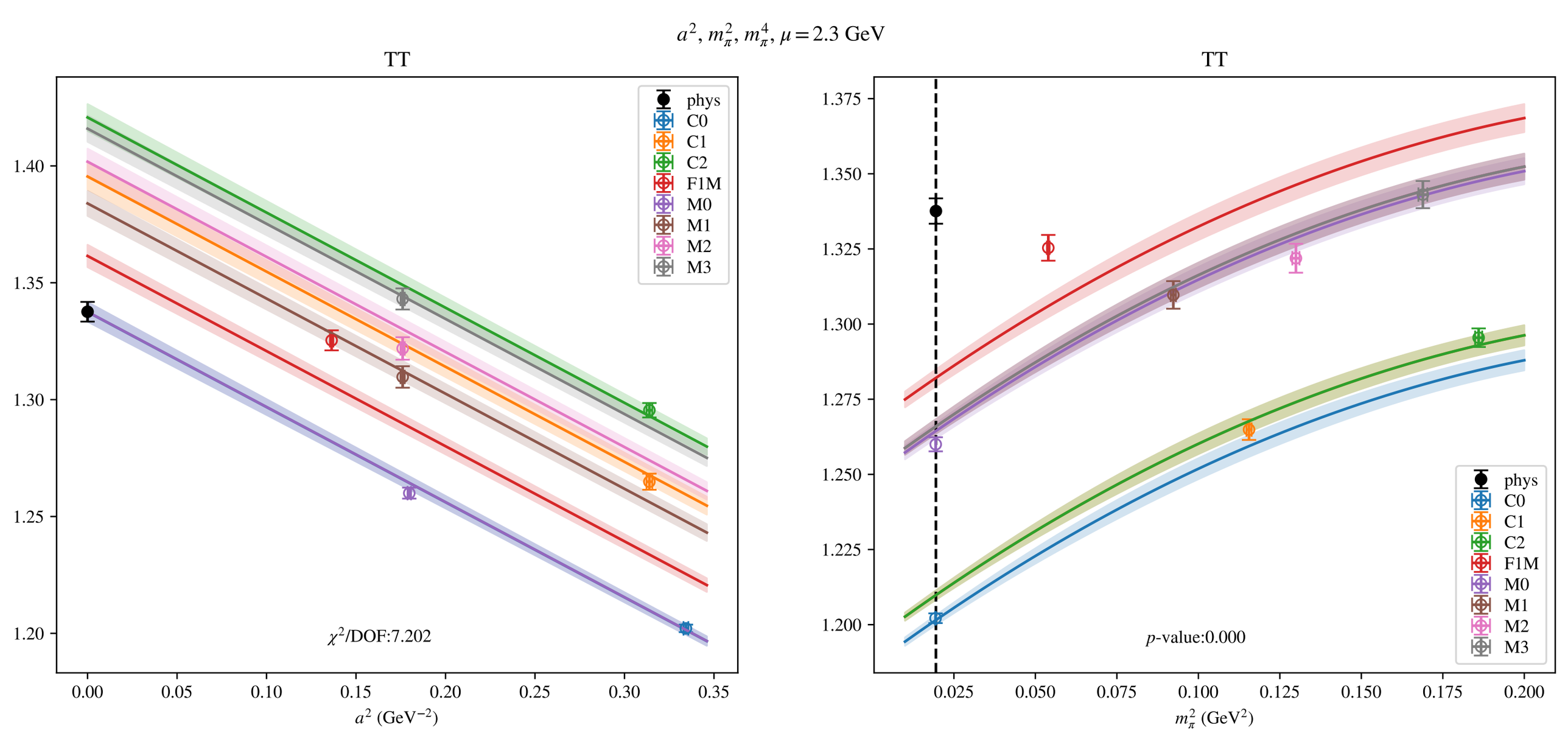

a^2, a^4, m_π^2, $\mu = 2.2$ GeV
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:2.668
a^2 (GeV^{-2})
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
p-value:0.030
m_π^2 (GeV^2)

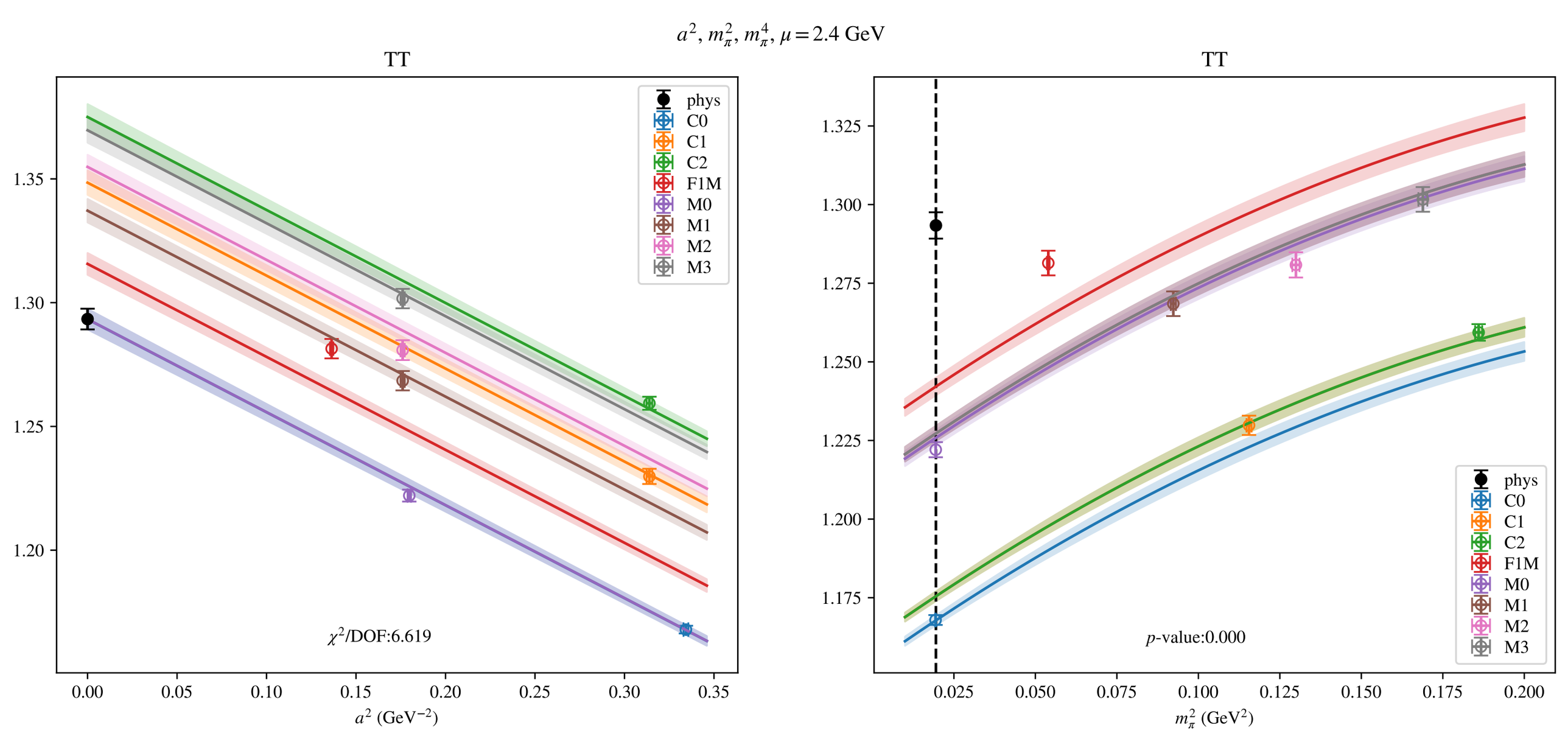

$a^2, a^4, m_\pi^2, \mu = 2.3$ GeV
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
1.6
1.5
1.4
1.3
1.2
χ^2/DOF:2.449
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
1.50
1.45
1.40
1.35
1.30
1.25
1.20
p-value:0.044
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)


$a^2, a^4, m_\pi^2, \mu = 2.4$ GeV
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:3.057
a^2 (GeV^{-2})
TT
p-value:0.016
m_π^2 (GeV^2)


$a^2, m_\pi^2, m_\pi^4, \mu = 2.0$ GeV
TT
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:6.645
p-value:0.000
a^2 (GeV^{-2})
m_π^2 (GeV^2)
1.65
1.60
1.55
1.50
1.45
1.40
1.35
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
1.55
1.50
1.45
1.40
1.35
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200


$a^2, m_\pi^2, m_\pi^4, \mu = 2.2$ GeV
TT
1.50
1.45
1.40
1.35
1.30
1.25
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:6.083
TT
1.425
1.400
1.375
1.350
1.325
1.300
1.275
1.250
1.225
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)
p-value:0.000
phys
C0
C1
C2
F1M
M0
M1
M2
M3


$a^2, m_\pi^2, m_\pi^4, \mu = 2.3$ GeV
TT
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
χ^2/DOF:7.202
p-value:0.000
a^2 (GeV^{-2})
m_π^2 (GeV^2)
1.40
1.35
1.30
1.25
1.20
1.375
1.350
1.325
1.300
1.275
1.250
1.225
1.200
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200


$a^2, m_\pi^2, m_\pi^4, \mu = 2.4$ GeV
TT
phys
C0
C1
C2
F1M
M0
M1
M2
M3
1.35
1.30
1.25
1.20
χ^2/DOF:6.619
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
a^2 (GeV^{-2})
TT
1.325
1.300
1.275
1.250
1.225
1.200
1.175
p-value:0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
m_π^2 (GeV^2)