

Results w simpleFit script Background-First-Order

Binned Likelihood on

Binned Likelihood off

Strategy 1

	$Rbkg\mu$	$R\tau\mu$	μ_{all}
$Rbkg\mu$	1.0	-0.0696195	-0.793507
$R\tau\mu$	-0.0696195	1.0	-0.416863
μ_{all}	-0.793507	-0.416863	1.0

	$Rbkg\mu$	$R\tau\mu$	μ_{all}
$Rbkg\mu$	1.0	-0.0568924	-0.793625
$R\tau\mu$	-0.0568924	1.0	-0.428179
μ_{all}	-0.793625	-0.428179	1.0

Strategy 0

	$Rbkg\mu$	$R\tau\mu$	μ_{all}
$Rbkg\mu$	1.0	-0.0595704	-0.797407
$R\tau\mu$	-0.0595704	1.0	-0.421992
μ_{all}	-0.797407	-0.421992	1.0

	$Rbkg\mu$	$R\tau\mu$	μ_{all}
$Rbkg\mu$	1.0	-0.0587714	-0.791538
$R\tau\mu$	-0.0587714	1.0	-0.427302
μ_{all}	-0.791538	-0.427302	1.0

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Strategy 1

```
FVAL = 0.918938532957290111
Edm = 4.77803781134803633e-10
Nfcn = 60
Rbkgmu = 1 +/- 0.0572499 (limited)
Rtaumu = 1 +/- 0.118019 (limited)
alpha_Dummy = 0 +/- 0.993347 (limited)
mu_all = 1 +/- 0.00272326(limited)
Info in Minuit2Minimizer::Hesse : Hesse is
valid - matrix is accurate
NLL: 125.154
```

```
-0.793507 6.24662e-10 -0.0696195 1
-0.416863 3.17057e-10 1 -0.0696195
-7.98687e-10 1 3.17057e-10 6.24662e-10
1 -7.98687e-10 -0.416863 -0.793507
```

Strategy 0

```
FVAL = 0.91893853320467267
Edm = 2.24205707550329081e-10
Nfcn = 28
Rbkgmu = 1 +/- 0.023875 (limited)
Rtaumu = 1 +/- 0.0739045 (limited)
alpha_Dummy = 0 +/- 0.993347 (limited)
mu_all = 1 +/- 0.00103066(limited)
Info in Minuit2Minimizer::Hesse : Hesse is
valid - matrix is accurate
NLL: 125.154
```

```
-0.797407 0 -0.0595704 1
-0.421992 0 1 -0.0595704
0 1 0 0
1 0 -0.421992 -0.797407
```

```
FVAL = 0.91893853134202752
Edm = 1.89806725047714982e-09
Nfcn = 62
Rbkgmu = 1 +/- 0.0561203 (limited)
Rtaumu = 1 +/- 0.117265 (limited)
alpha_Dummy = 0 +/- 0.993347 (limited)
mu_all = 1 +/- 0.0026628 (limited)
Info in Minuit2Minimizer::Hesse : Hesse is
valid - matrix is accurate
NLL: -1.21353e+07
```

```
-0.793625 -3.39175e-10 -0.0568924 1
-0.428179 -2.46071e-11 1 -0.0568924
2.83441e-10 1 -2.46071e-11 -3.39175e-10
1 2.83441e-10 -0.428179 -0.793625
```

```
FVAL = 0.91893853134202752
Edm = 1.89094568876824442e-10
Nfcn = 35
Rbkgmu = 1 +/- 0.0235087 (limited)
Rtaumu = 1 +/- 0.085437 (limited)
alpha_Dummy = 0 +/- 0.993347 (limited)
mu_all = 1 +/- 0.000426689 (limited)
Info in Minuit2Minimizer::Hesse : Hesse is
valid - matrix is accurate
NLL: -1.21353e+07
```

```
-0.791538 -2.18187e-10 -0.0587714 1
-0.427302 -1.61601e-10 1 -0.0587714
2.29053e-10 1 -1.61601e-10 -2.18187e-10
1 2.29053e-10 -0.427302 -0.791538
```

Results w simpleFit script Signal-First-Order

Binned Likelihood on

Binned Likelihood off

Strategy 1

	$Rbkg\mu$	$R\tau\mu$	μ_{all}
$Rbkg\mu$	1.0	-0.119168	-0.762109
$R\tau\mu$	-0.119168	1.0	-0.404907
μ_{all}	-0.762109	-0.404907	1.0

	$Rbkg\mu$	$R\tau\mu$	μ_{all}
$Rbkg\mu$	1.0	-0.058062	-0.797434
$R\tau\mu$	-0.058062	1.0	-0.423067
μ_{all}	-0.797434	-0.423067	1.0

Strategy 0

	$Rbkg\mu$	$R\tau\mu$	μ_{all}
$Rbkg\mu$	1.0	-0.0561949	-0.798125
$R\tau\mu$	-0.0561949	1.0	-0.423509
μ_{all}	-0.798125	-0.423509	1.0

	$Rbkg\mu$	$R\tau\mu$	μ_{all}
$Rbkg\mu$	1.0	-0.0587714	-0.791538
$R\tau\mu$	-0.0587714	1.0	-0.427302
μ_{all}	-0.791538	-0.427302	1.0

Results w simpleFit script Signal-First-Order

Binned Likelihood on

Binned Likelihood off

FVAL = 0.918938532942738195
Edm = 4.67573718987641148e-10
Nfcn = 57
Rbkgmu = 1 +/- 0.0575174 (limited)
Rtaumu = 1 +/- 0.118161 (limited)
alpha_Dummy = 0 +/- 0.993347 (limited)
mu_all = 1 +/- 0.0027375 (limited)
Info in Minuit2Minimizer::Hesse : Hesse is
valid - matrix is accurate
NLL: 125.154

-0.762109	-1.33459e-10	-0.119168	1
-0.404907	-2.79979e-10	1	-0.119168
-8.4617e-11	1	-2.79979e-10	-1.33459e-10
1	-8.4617e-11	-0.404907	-0.762109

FVAL = 0.918938533190120754
Edm = 1.884731238193774e-10
Nfcn = 38
Rbkgmu = 1 +/- 0.0228026 (limited)
Rtaumu = 1 +/- 0.0841262 (limited)
alpha_Dummy = 0 +/- 0.993347 (limited)
mu_all = 1 +/- 0.000560512 (limited)
Info in Minuit2Minimizer::Hesse : Hesse is
valid - matrix is accurate
NLL: 125.154

-0.798125	-2.23462e-10	-0.0561949	1
-0.423509	-1.62804e-10	1	-0.0561949
2.34624e-10	1	-1.62804e-10	-2.23462e-10
1	2.34624e-10	-0.423509	-0.798125

FVAL = 0.91893853134202752
Edm = 2.81732922225723782e-09
Nfcn = 63
Rbkgmu = 1 +/- 0.0561203 (limited)
Rtaumu = 1 +/- 0.117265 (limited)
alpha_Dummy = 0 +/- 0.993347 (limited)
mu_all = 1 +/- 0.0026628 (limited)
Info in Minuit2Minimizer::Hesse : Hesse is
valid - matrix is accurate
NLL: -1.21353e+07

-0.797434	-5.57839e-11	-0.058062	1
-0.423067	-4.06521e-11	1	-0.058062
5.86225e-11	1	-4.06521e-11	-5.57839e-11
1	5.86225e-11	-0.423067	-0.797434

FVAL = 0.91893853134202752
Edm = 1.89094568876824442e-10
Nfcn = 35
Rbkgmu = 1 +/- 0.0235087 (limited)
Rtaumu = 1 +/- 0.085437 (limited)
alpha_Dummy = 0 +/- 0.993347 (limited)
mu_all = 1 +/- 0.000426689 (limited)
Info in Minuit2Minimizer::Hesse : Hesse is
valid - matrix is accurate
NLL: -1.21353e+07

-0.791538	-2.18187e-10	-0.0587714	1
-0.427302	-1.61601e-10	1	-0.0587714
2.29053e-10	1	-1.61601e-10	-2.18187e-10
1	2.29053e-10	-0.427302	-0.791538

Strategy 1

Strategy 0