Candidate function #15

```
SymbolFit
         1.0*((a2 + a3*tanh(a4*((x0 - 1568.5) * 0.000136221)))**(a5*((x0 - 1568.5) * 0.000136221) + tanh(a1 + ((x0 - 1568.5) * 0.000136221)**2)))
         a1 = -1.27, a2 = 0.103136^{+0.000369(0.358\%)}_{-0.0003677(0.357\%)},
         \text{a3} = 0.109789^{+0.009845(8.97\%)}_{-0.008207(7.48\%)},
                                                    a4 = 2.53141^{+0.2877(11.4\%)}_{-0.2832(11.2\%)},
                                                                                                                                                               Candidate #15
         a5 = 10.8176^{+0.01913(0.177\%)}_{-0.01907(0.176\%)}
                                                                                                               \chi^2/NDF = 32.29/33, RMSE = 0.008844, R2 = 1.0
  10^{1}
                                                                                                                                                           Best-fit
                                                                                                                                                        - a2 Up (+1\sigma)
  10^{0}
                                                                                                                                                           a2 Down (-1\sigma)
                                                                                                                                                           Data
10^{-1}
10^{-2}
10<sup>-3</sup>
10^{-4}
10^{-5}
10^{-6}
10^{-7}
     2
                                                                                                                                                                                       Data – Fit
Uncertainty
     0
    -2
1.02
     1
```

 4×10^{3}

 6×10^3

 2×10^3

```
1.0*((a2 + a3*tanh(a4*((x0 - 1568.5) * 0.000136221)))**(a5*((x0 - 1568.5) * 0.000136221) + tanh(a1 + ((x0 - 1568.5) * 0.000136221)**2)))
           a1 = -1.27, a2 = 0.103136^{+0.000369(0.358\%)}_{-0.0003677(0.357\%)},
           \mathbf{a3} = \mathbf{0.109789}^{+0.009845(8.97\%)}_{-0.008207(7.48\%)}, \quad \mathbf{a4} = 2.53141^{+0.2877(11.4\%)}_{-0.2832(11.2\%)}, \\ \mathbf{a5} = 10.8176^{+0.01913(0.177\%)}_{-0.01907(0.176\%)}
                                                                                                                                                                                           Candidate #15
                                                                                                                                   \chi^2/NDF = 32.29/33, RMSE = 0.008844, R2 = 1.0
  10^{1}
                                                                                                                                                                                       Best-fit
                                                                                                                                                                                       a3 Up (+1\sigma)
  10^{0}
                                                                                                                                                                                       a3 Down (-1\sigma)
                                                                                                                                                                                       Data
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-7}
      2
                                                                                                                                                                                                                       Data – Fit
Uncertainty
      0
     -2
   1.5
                                                                                                                                                                                                                       \pm 1\sigma
Best-fit
      1
```

 4×10^{3}

 6×10^{3}

 2×10^3

```
1.0*((a2 + a3*tanh(a4*((x0 - 1568.5) * 0.000136221)))**(a5*((x0 - 1568.5) * 0.000136221) + tanh(a1 + ((x0 - 1568.5) * 0.000136221)**2)))
           a1 = -1.27, a2 = 0.103136^{+0.000369(0.358\%)}_{-0.0003677(0.357\%)},
           \begin{array}{l} \text{a3} = 0.109789^{+0.009845(8.97\%)}_{-0.008207(7.48\%)}, \\ \text{a5} = 10.8176^{+0.01913(0.177\%)}_{-0.01907(0.176\%)} \end{array}
                                                              \mathbf{a4} = \mathbf{2.53141}^{+0.2877(11.4\%)}_{-0.2832(11.2\%)},
                                                                                                                                                                                           Candidate #15
                                                                                                                                    \chi^2/NDF = 32.29/33, RMSE = 0.008844, R2 = 1.0
  10^{1}
                                                                                                                                                                                        Best-fit
                                                                                                                                                                                        a4 Up (+1\sigma)
  10^{0}
                                                                                                                                                                                        a4 Down (-1\sigma)
                                                                                                                                                                                        Data
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
10^{-7}
      2
                                                                                                                                                                                                                        Data – Fit
Uncertainty
      0
     -2
   1.1
      1
   0.9
                                         2 \times 10^3
                                                                                    3 \times 10^3
                                                                                                                 4 \times 10^3
                                                                                                                                                            6 \times 10^3
```

```
1.0*((a2 + a3*tanh(a4*((x0 - 1568.5) * 0.000136221)))**(a5*((x0 - 1568.5) * 0.000136221) +
         tanh(a1 + ((x0 - 1568.5) * 0.000136221)**2)))
         a1 = -1.27, a2 = 0.103136^{+0.000369(0.358\%)}_{-0.0003677(0.357\%)},
         \text{a3} = 0.109789^{+0.009845(8.97\%)}_{-0.008207(7.48\%)},
                                                  a4 = 2.53141^{+0.2877(11.4\%)}_{-0.2832(11.2\%)},
                                                                                                                                                         Candidate #15
         a5 = 10.8176^{+0.01913(0.177\%)}_{-0.01907(0.176\%)}
                                                                                                           \chi^2/NDF = 32.29/33, RMSE = 0.008844, R2 = 1.0
 10^{1}
                                                                                                                                                      Best-fit
                                                                                                                                                      a5 Up (+1\sigma)
 10<sup>0</sup>
                                                                                                                                                      a5 Down (-1\sigma)
                                                                                                                                                      Data
10^{-1}
10^{-2}
10<sup>-3</sup>
10^{-4}
10^{-5}
10^{-6}
10^{-7}
     2
                                                                                                                                                                               Data – Fit
Uncertainty
     0
    -2
1.02
                                                                                                                                                                                \pm 1\sigma
Best-fit
     1
0.98
                                  2 \times 10^3
                                                                    3 \times 10^3
                                                                                            4 \times 10^{3}
                                                                                                                               6 \times 10^3
```

Candidate function #14

```
SymbolFit
        1.0*((a2 + a3*tanh(2*((x0 - 1568.5) * 0.000136221)))**(a1 + a4*((x0 - 1568.5) * 0.000136221)))
        a1 = -0.855, a2 = 0.103779^{+0.0003662(0.353\%)}_{-0.0003641(0.351\%)},
                                              a4 = 10.8452^{+0.01984(0.183\%)}_{-0.01977(0.182\%)}
        a3 = 0.124394^{+0.003574(2.87\%)}_{-0.003621(2.91\%)}\text{,}
                                                                                                                                           Candidate #14
                                                                                                   \chi^2/NDF = 37.73/34, RMSE = 0.01006, R2 = 1.0
 10^{1}
                                                                                                                                         Best-fit
                                                                                                                                         a2 Up (+1\sigma)
 10^{0}
                                                                                                                                         a2 Down (-1\sigma)
                                                                                                                                         Data
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
                                                                                                                                                                  ∂
     2
                                                                                                                                                                Data – Fit
Uncertainty
     0
   -2
1.01
     1
0.99
```

 6×10^{3}

 2×10^{3}

```
1.0*((a2 + a3*tanh(2*((x0 - 1568.5) * 0.000136221)))**(a1 + a4*((x0 - 1568.5) * 0.000136221)))
        a1 = -0.855, a2 = 0.103779^{+0.0003662(0.353\%)}_{-0.0003641(0.351\%)},
         \mathbf{a3} = \mathbf{0.124394}^{+0.003574(2.87\%)}_{-0.003621(2.91\%)},
                                                     a4 = 10.8452^{+0.01984(0.183\%)}_{-0.01977(0.182\%)}
                                                                                                                                                      Candidate #14
                                                                                                           \chi^2/NDF = 37.73/34, RMSE = 0.01006, R2 = 1.0
 10^{1}
                                                                                                                                                   Best-fit
                                                                                                                                                   a3 Up (+1\sigma)
 10^{0}
                                                                                                                                                   a3 Down (-1\sigma)
                                                                                                                                                   Data
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
     2
                                                                                                                                                                             Data – Fit
Uncertainty
     0
    -2
  1.1
     1
  0.9
                                 2 \times 10^3
                                                                   3 \times 10^3
                                                                                           4 \times 10^3
                                                                                                                             6 \times 10^{3}
```

```
SymbolFit
        1.0*((a2 + a3*tanh(2*((x0 - 1568.5) * 0.000136221)))**(a1 + a4*((x0 - 1568.5) * 0.000136221)))
        a1 = -0.855, a2 = 0.103779^{+0.0003662(0.353\%)}_{-0.0003641(0.351\%)},
        a3 = 0.124394^{+0.003574(2.87\%)}_{-0.003621(2.91\%)},
                                                \mathbf{a4} = \mathbf{10.8452}^{+0.01984(0.183\%)}_{-0.01977(0.182\%)}
                                                                                                                                                Candidate #14
                                                                                                       \chi^2/NDF = 37.73/34, RMSE = 0.01006, R2 = 1.0
 10^{1}
                                                                                                                                              Best-fit
                                                                                                                                              a4 Up (+1\sigma)
 10^{0}
                                                                                                                                              a4 Down (-1\sigma)
                                                                                                                                              Data
10^{-1}
10^{-2}
10<sup>-3</sup>
10^{-4}
10^{-5}
10^{-6}
                                                                                                                                                                        ∂
     2
                                                                                                                                                                      Data – Fit
Uncertainty
     0
   -2
1.02
     1
0.98
```

 6×10^{3}

 2×10^{3}



```
SymbolFit
        1.0*((a2 + a3*tanh(2*((x0 - 1568.5) * 0.000136221)))**(a1 + a4*((x0 - 1568.5) * 0.000136221)))
        a1 = -0.855, a2 = 0.103779^{+0.0003662(0.353\%)}_{-0.0003641(0.351\%)},
                                              a4 = 10.8452^{+0.01984(0.183\%)}_{-0.01977(0.182\%)}
        a3 = 0.124394^{+0.003574(2.87\%)}_{-0.003621(2.91\%)}\text{,}
                                                                                                                                           Candidate #13
                                                                                                   \chi^2/NDF = 37.73/34, RMSE = 0.01006, R2 = 1.0
 10^{1}
                                                                                                                                        Best-fit
                                                                                                                                        a2 Up (+1\sigma)
 10^{0}
                                                                                                                                        a2 Down (-1\sigma)
                                                                                                                                         Data
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
                                                                                                                                                                  ∂
     2
                                                                                                                                                                Data – Fit
Uncertainty
     0
   -2
1.01
     1
0.99
```

 6×10^{3}

 2×10^{3}

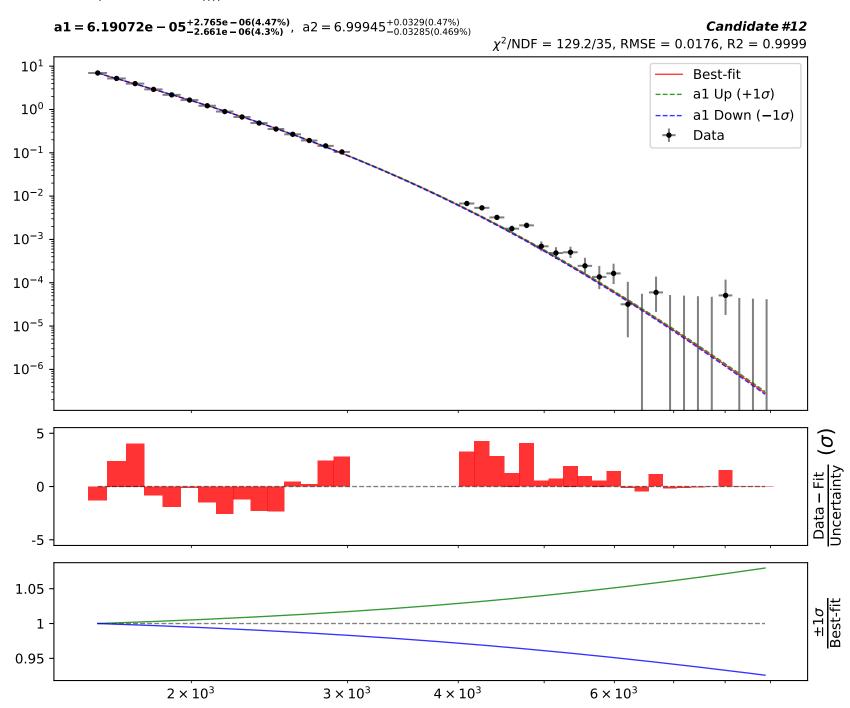
```
1.0*((a2 + a3*tanh(2*((x0 - 1568.5) * 0.000136221)))**(a1 + a4*((x0 - 1568.5) * 0.000136221)))
        a1 = -0.855, a2 = 0.103779^{+0.0003662(0.353\%)}_{-0.0003641(0.351\%)},
         \mathbf{a3} = \mathbf{0.124394}^{+0.003574(2.87\%)}_{-0.003621(2.91\%)},
                                                     a4 = 10.8452^{+0.01984(0.183\%)}_{-0.01977(0.182\%)}
                                                                                                                                                      Candidate #13
                                                                                                           \chi^2/NDF = 37.73/34, RMSE = 0.01006, R2 = 1.0
 10^{1}
                                                                                                                                                   Best-fit
                                                                                                                                                   a3 Up (+1\sigma)
 10^{0}
                                                                                                                                                   a3 Down (-1\sigma)
                                                                                                                                                   Data
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
     2
                                                                                                                                                                             Data – Fit
Uncertainty
     0
    -2
  1.1
     1
  0.9
                                 2 \times 10^3
                                                                   3 \times 10^3
                                                                                           4 \times 10^3
                                                                                                                             6 \times 10^{3}
```

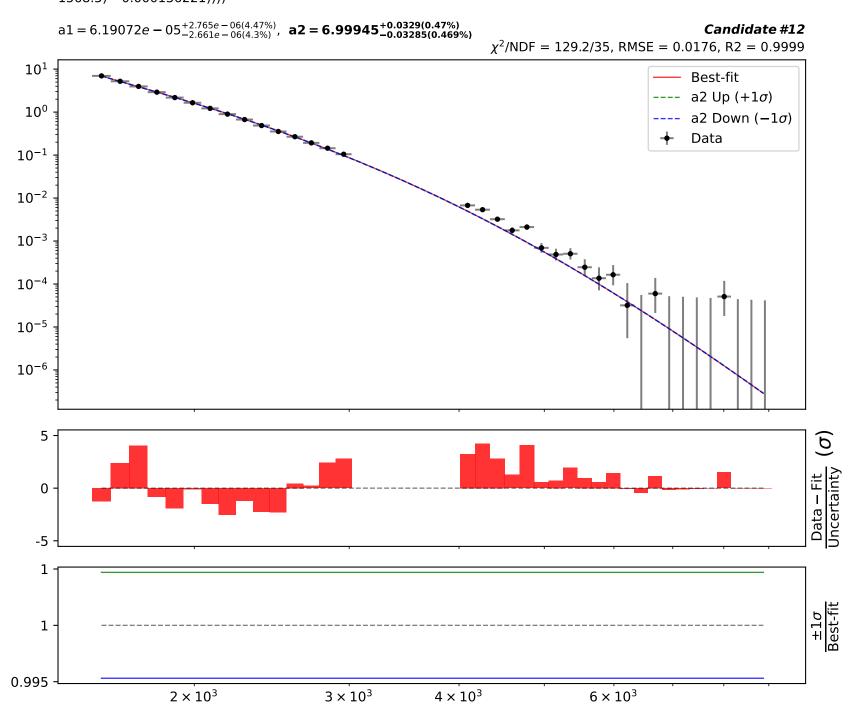
```
SymbolFit
        1.0*((a2 + a3*tanh(2*((x0 - 1568.5) * 0.000136221)))**(a1 + a4*((x0 - 1568.5) * 0.000136221)))
        a1 = -0.855, a2 = 0.103779^{+0.0003662(0.353\%)}_{-0.0003641(0.351\%)},
        a3 = 0.124394^{+0.003574(2.87\%)}_{-0.003621(2.91\%)},
                                                \mathbf{a4} = \mathbf{10.8452}^{+0.01984(0.183\%)}_{-0.01977(0.182\%)}
                                                                                                                                                Candidate #13
                                                                                                       \chi^2/NDF = 37.73/34, RMSE = 0.01006, R2 = 1.0
 10^{1}
                                                                                                                                              Best-fit
                                                                                                                                              a4 Up (+1\sigma)
 10^{0}
                                                                                                                                              a4 Down (-1\sigma)
                                                                                                                                              Data
10^{-1}
10^{-2}
10<sup>-3</sup>
10^{-4}
10^{-5}
10^{-6}
                                                                                                                                                                        ∂
     2
                                                                                                                                                                      Data – Fit
Uncertainty
     0
   -2
1.02
     1
0.98
```

 6×10^{3}

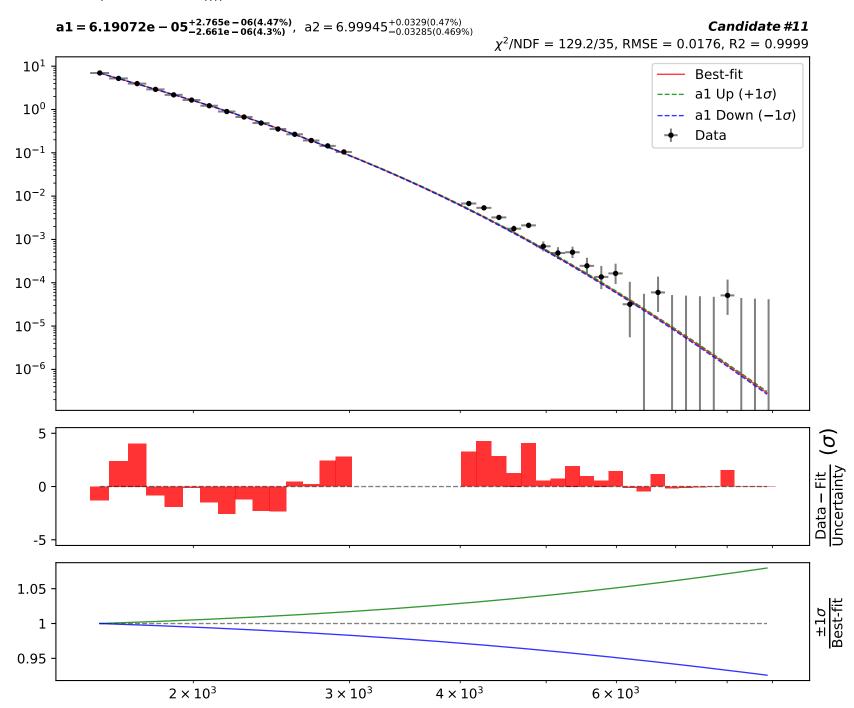
 2×10^{3}

Candidate function #12



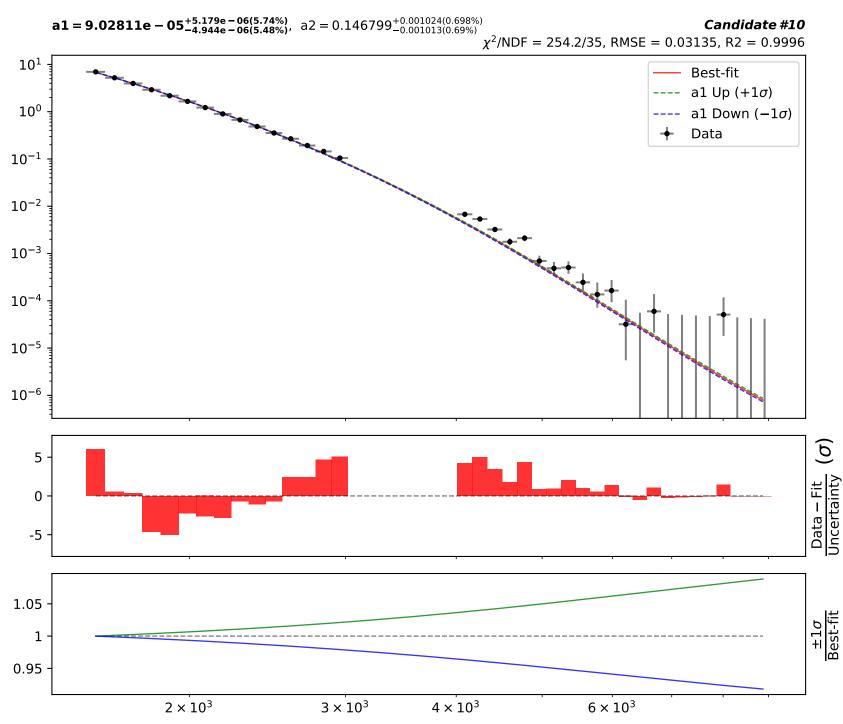


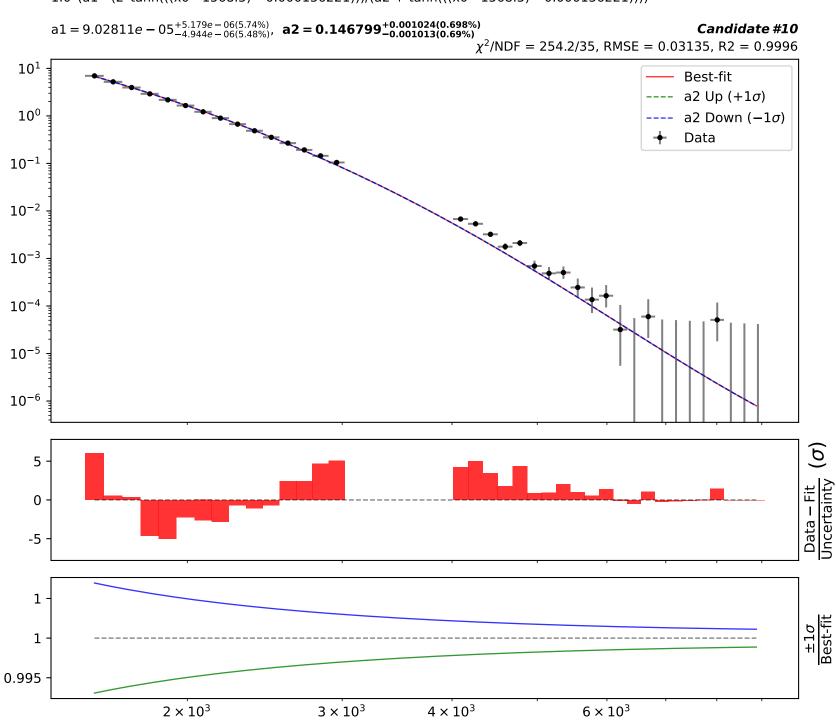




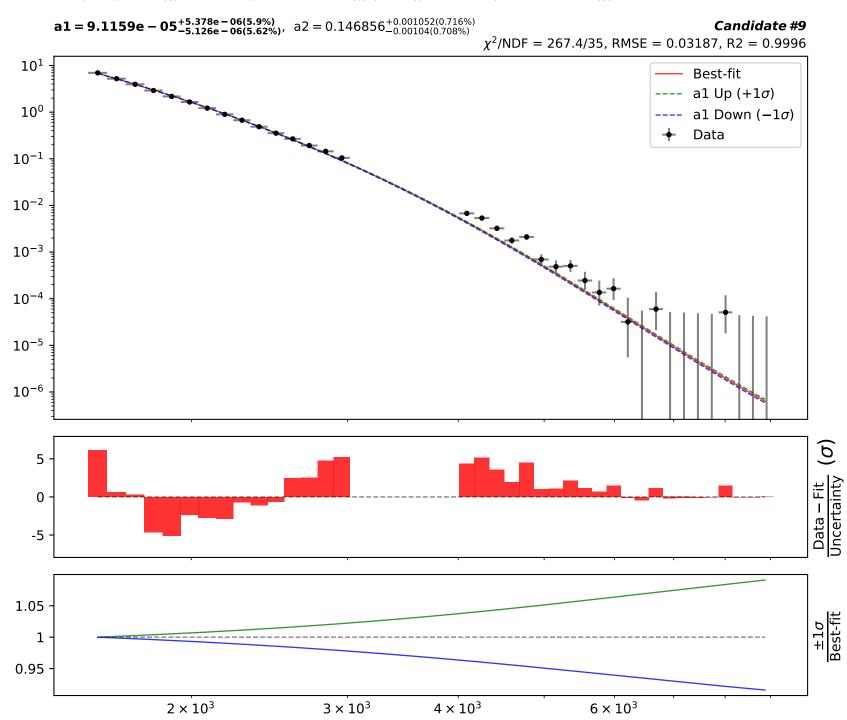


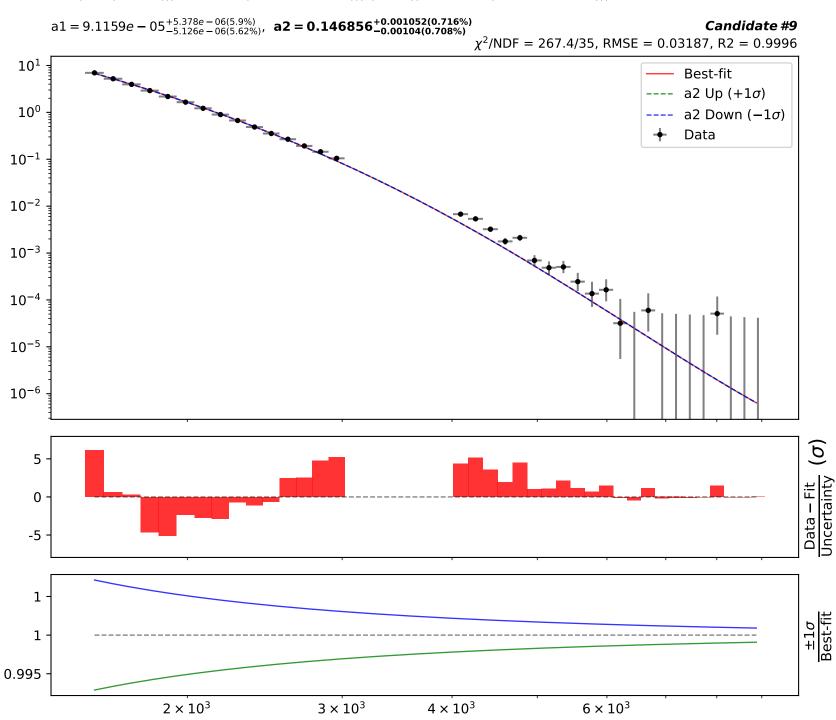






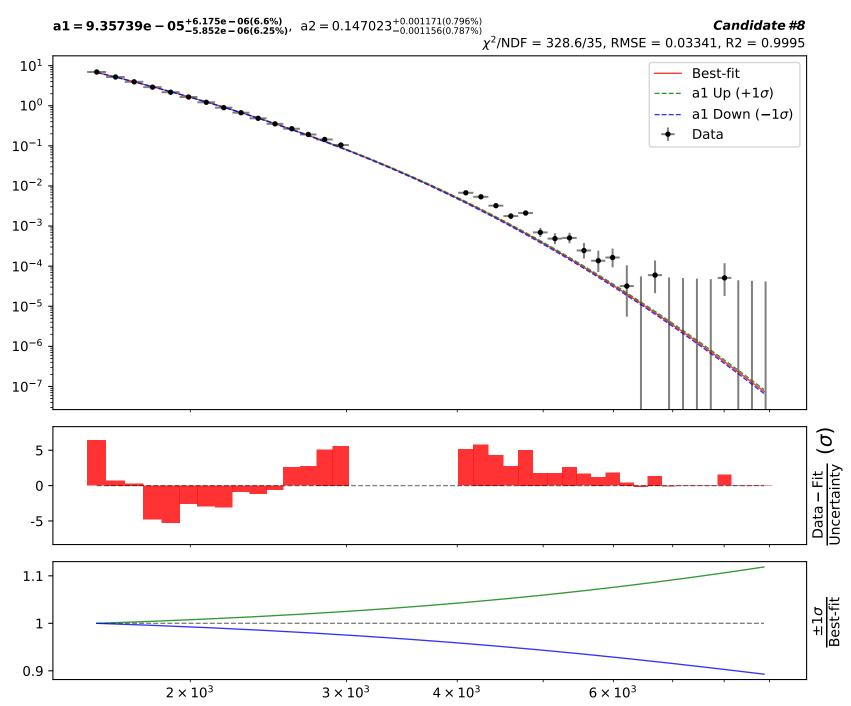








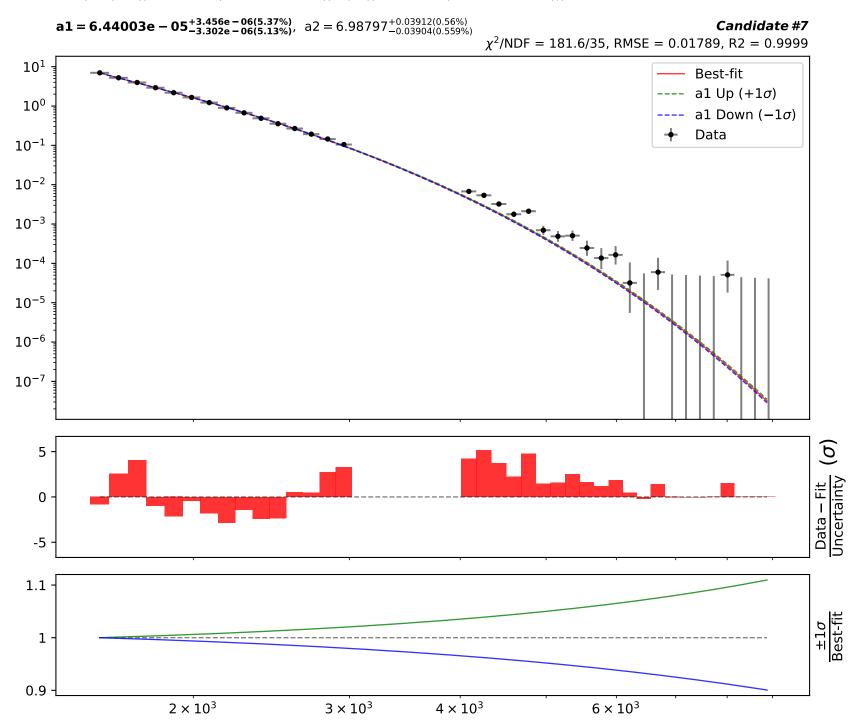
1.0*(a1**(((x0 - 1568.5) * 0.000136221) + tanh(((x0 - 1568.5) * 0.000136221)))/(a2 + ((x0 - 1568.5) * 0.000136221)))



1.0*(a1**(((x0 - 1568.5) * 0.000136221) + tanh(((x0 - 1568.5) * 0.000136221)))/(a2 + ((x0 - 1568.5) * 0.000136221)))



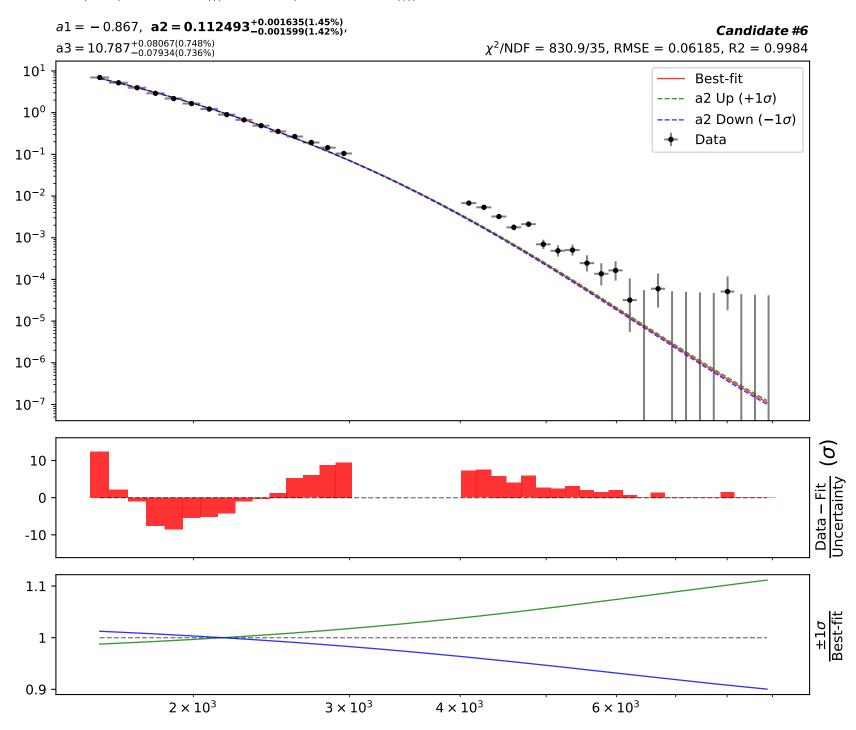




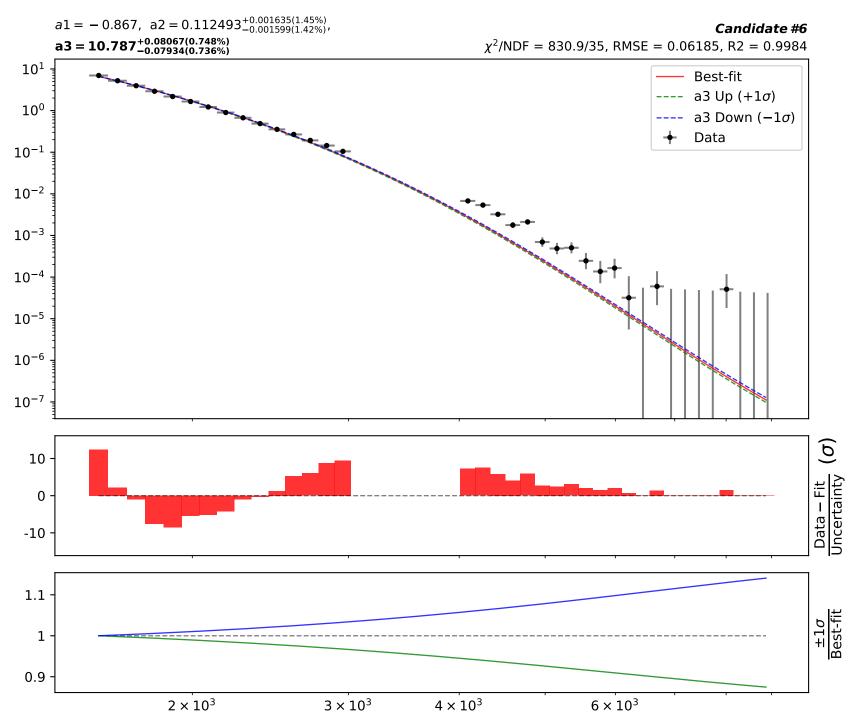
 6×10^3

 2×10^3

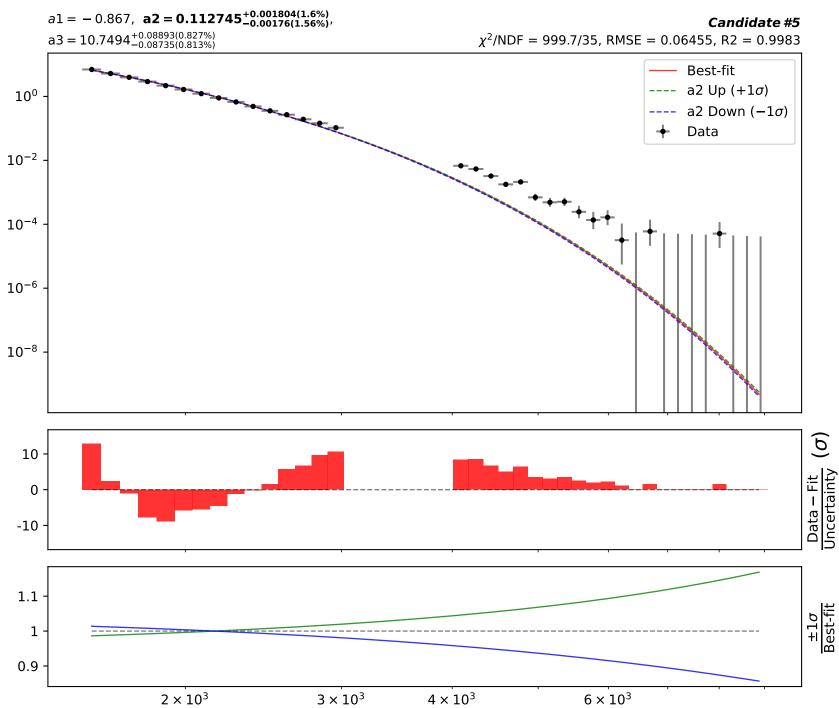




1.0*(a2**(a1 + a3*tanh(((x0 - 1568.5) * 0.000136221)))))





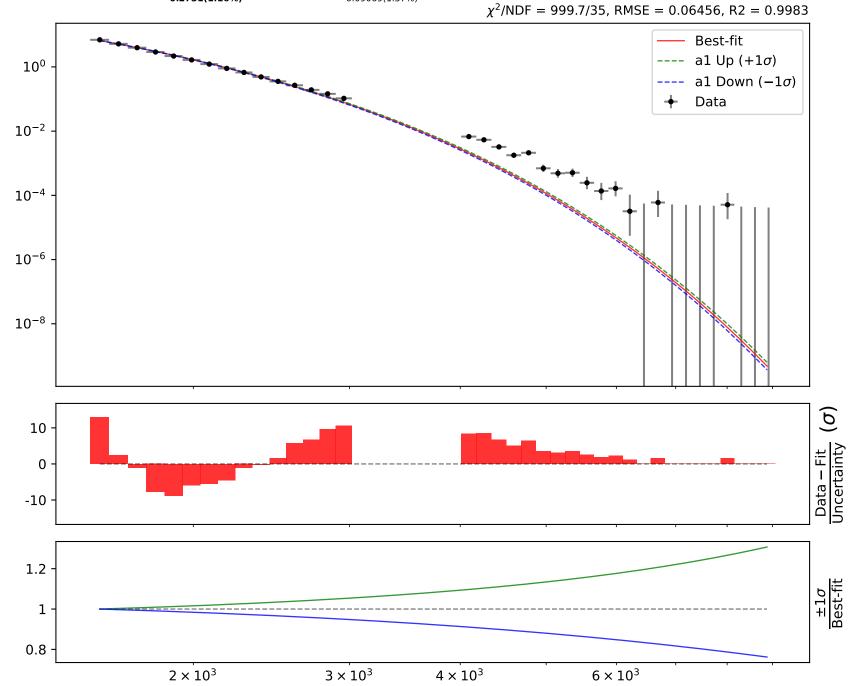


1.0*(a2**(a1 + a3*((x0 - 1568.5) * 0.000136221)))a1 = -0.867, $a2 = 0.112745^{+0.001804(1.6\%)}_{-0.00176(1.56\%)}$, Candidate #5 $\mathbf{a3} = \mathbf{10.7494}^{+0.08893}_{-0.08735}^{(0.827\%)}_{(0.813\%)}$ $\chi^2/NDF = 999.7/35$, RMSE = 0.06455, R2 = 0.9983 Best-fit -- a3 Up $(+1\sigma)$ 10^{0} a3 Down (-1σ) Data 10^{-2} 10^{-4} 10^{-6} 10-8 $\frac{\text{Data} - \text{Fit}}{\text{Uncertainty}} (\sigma)$ 10 0 -10 · 1.2 1 2×10^3 3×10^3 4×10^3 6×10^3

Candidate function #4

 $a1 = -23.4619^{+0.2694(1.15\%)}_{-0.2731(1.16\%)}$, $a2 = 6.63485^{+0.09112(1.37\%)}_{-0.09069(1.37\%)}$

Candidate #4



SymbolFit 1.0*(a2*exp(a1*((x0 - 1568.5) * 0.000136221))) $\mathtt{a1} = -23.4619^{+0.2694(1.15\%)}_{-0.2731(1.16\%)}, \ \ \mathbf{a2} = \textbf{6.63485}^{+\textbf{0.09112(1.37\%)}}_{-\textbf{0.09069(1.37\%)}}$ Candidate #4 χ^2 /NDF = 999.7/35, RMSE = 0.06456, R2 = 0.9983 Best-fit ---- a2 Up $(+1\sigma)$ 10^{0} a2 Down (-1σ) Data 10^{-2} 10^{-4} 10^{-6} 10^{-8} $\frac{\mathsf{Data} - \mathsf{Fit}}{\mathsf{Uncertainty}} \; (\sigma)$ 10 0 -10 1.01

 4×10^3

 6×10^3

1

 2×10^{3}

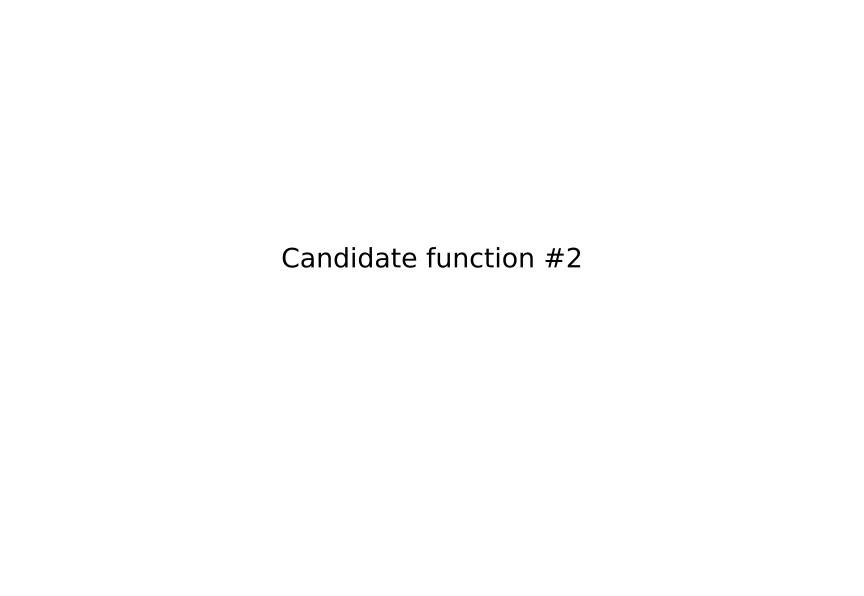
 3×10^3

0.99 -

 $\pm 1\sigma$ Best-fit

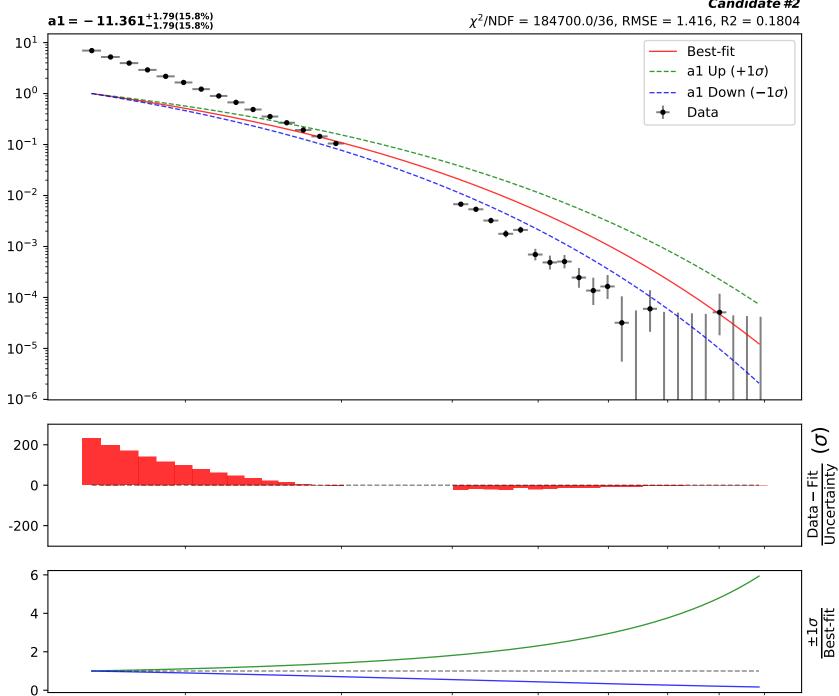


1.0*(a1**((x0 - 1568.5) * 0.000136221)*a2) a1 = 1.07e - 05, $a2 = 2.3289^{+0.303(13.0\%)}_{-0.303(13.0\%)}$ Candidate #3 χ^2 /NDF = 120300.0/36, RMSE = 1.025, R2 = 0.5707 $10^{1} \frac{1}{2}$ Best-fit ---- a2 Up $(+1\sigma)$ a2 Down (-1σ) 10^{0} Data 10^{-1} 10^{-2} 10⁻³ 10^{-4} 200 (g Data – Fit Uncertainty 0 -200 1.1 1 0.9 - 2×10^3 3×10^3 4×10^3 6×10^3



 2×10^3





 4×10^3

 6×10^3

 3×10^3



