

δx

☒

δy

☒

Damped Oscillator

$y = A_o e^{-bx} \sin(\omega x + \delta) + C$

$\chi^2_{\text{reduced}} = 21.56$

Parameter	Value	Uncertainty
A_o [start: 2.20e-01]	-2.173e-01	8.076e-03
b [start: 1.00e-02]	-5.109e-03	6.221e-03
ω [start: 3.98e+00]	4.024e+00	1.338e-02
δ [start: 0]	-3.623e-01	7.981e-02
C	-5.878e-04	3.495e-03

The figure consists of two vertically stacked plots. The top plot shows a set of data points (blue squares) and a fitted curve (black line) for a damped oscillator. The x-axis ranges from 0 to 10, and the y-axis ranges from -0.2 to 0.2. The data points show a clear oscillatory pattern with a decaying amplitude. The fitted curve follows the data points closely. The bottom plot shows the residuals (black squares) of the fit. The x-axis ranges from 0 to 10, and the y-axis ranges from -20 to 20. The residuals are scattered around zero, indicating a good fit.