

===== STARTING OPTIMIZATION RUN =====

```
differential_evolution step 1: f(x)= -72.0062
differential_evolution step 2: f(x)= -152.503
differential_evolution step 3: f(x)= -152.503
differential_evolution step 4: f(x)= -152.689
differential_evolution step 5: f(x)= -176.106
differential_evolution step 6: f(x)= -210.415
differential_evolution step 7: f(x)= -224.958
differential_evolution step 8: f(x)= -240.512
differential_evolution step 9: f(x)= -240.512
differential_evolution step 10: f(x)= -240.512
differential_evolution step 11: f(x)= -246.616
differential_evolution step 12: f(x)= -246.616
differential_evolution step 13: f(x)= -247.332
differential_evolution step 14: f(x)= -248.422
differential_evolution step 15: f(x)= -248.744
differential_evolution step 16: f(x)= -249.315
differential_evolution step 17: f(x)= -251.202
differential_evolution step 18: f(x)= -251.202
differential_evolution step 19: f(x)= -251.229
differential_evolution step 20: f(x)= -251.229
differential_evolution step 21: f(x)= -251.469
differential_evolution step 22: f(x)= -251.469
differential_evolution step 23: f(x)= -251.8
differential_evolution step 24: f(x)= -252.206
differential_evolution step 25: f(x)= -252.217
differential_evolution step 26: f(x)= -252.217
differential_evolution step 27: f(x)= -252.31
```

===== OPTIMIZED RESULTS =====

===== CRITERION =====

```
|fisher_determinant      252.31000727743015
|sensitivity matrix      [[0.02936982  6.00979198  3.68012032]
|                          [0.02936994  6.00979942  3.68012487]
|                          [0.19345575  8.42296024  2.64726938]
|                          [0.99551519  0.10814337  0.0339886 ]]
|inverse covariance matrix [[0.82338185  0.          0.          0.          ]
|                          [0.          0.82338186  0.          0.          ]
|                          [0.          0.          0.82594678  0.          ]
|                          [0.          0.          0.          0.82634818]]
```

===== INDIVIDUAL RESULTS =====

```
Result_0
|ode_x0      [50.  1.]
|ode_t0      0.0
|times       [99.9942128  99.99433358]
|inputs      [3.4817324001093413]
|parameters  (20000.0, 0.02, -5.5)
```

```
Result_1
|ode_x0      [50.  1.]
|ode_t0      0.0
|times       [42.95660959 98.6753861 ]
|inputs      [11.999647652116655]
|parameters  (20000.0, 0.02, -5.5)
```

===== DISCRETIZATION PENALTY SUMMARY =====

```
|penalty      1.0
|penalty_ode_t0 1.0
|penalty_inputs 1.0
|penalty_times 1.0
|penalty_summary {'ode_t0': [], 'inputs': [], 'times': []}
```