Model-based optimal inference of spike times given noisy and intermittent calcium-fluorescence imaging

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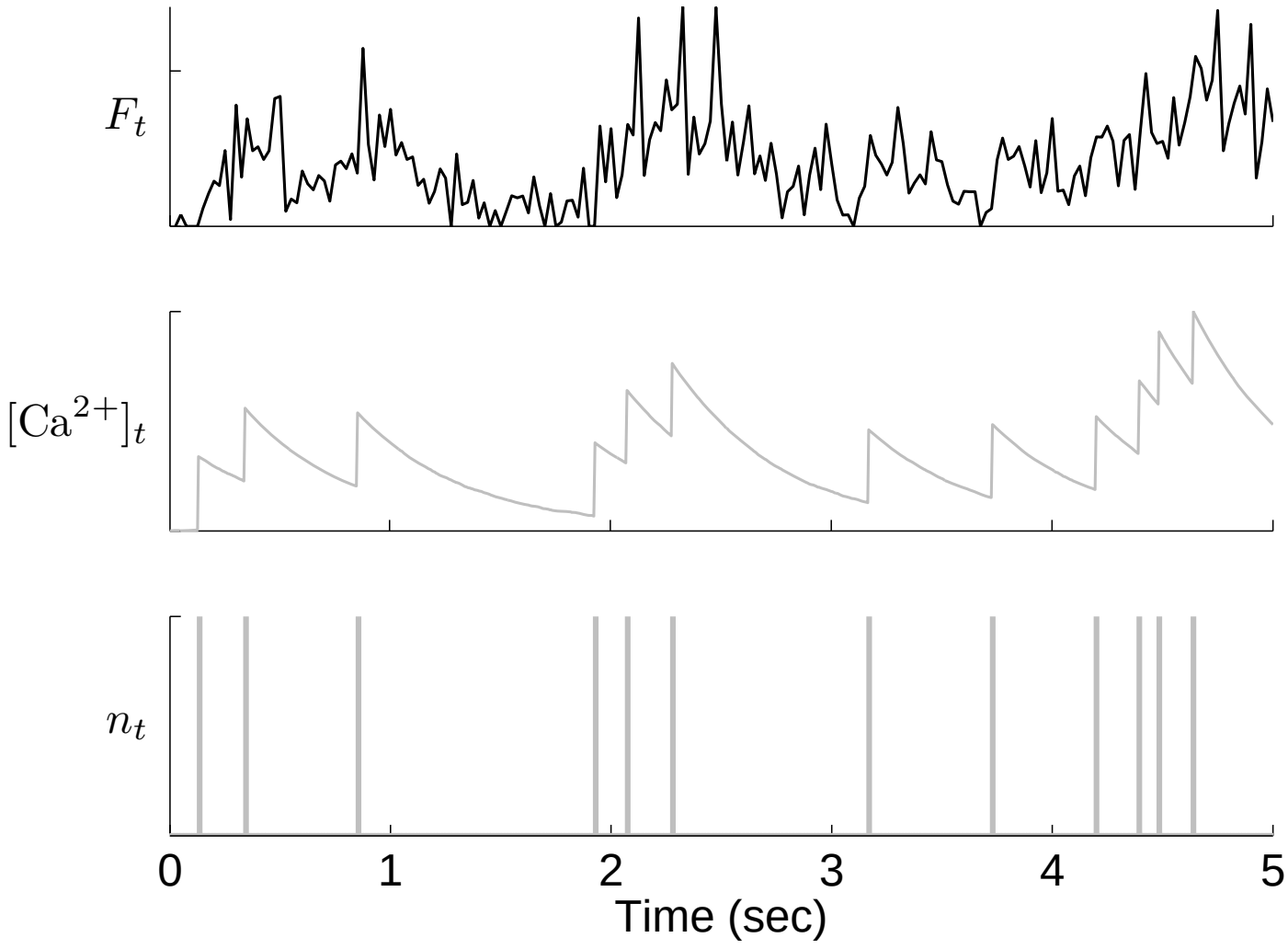
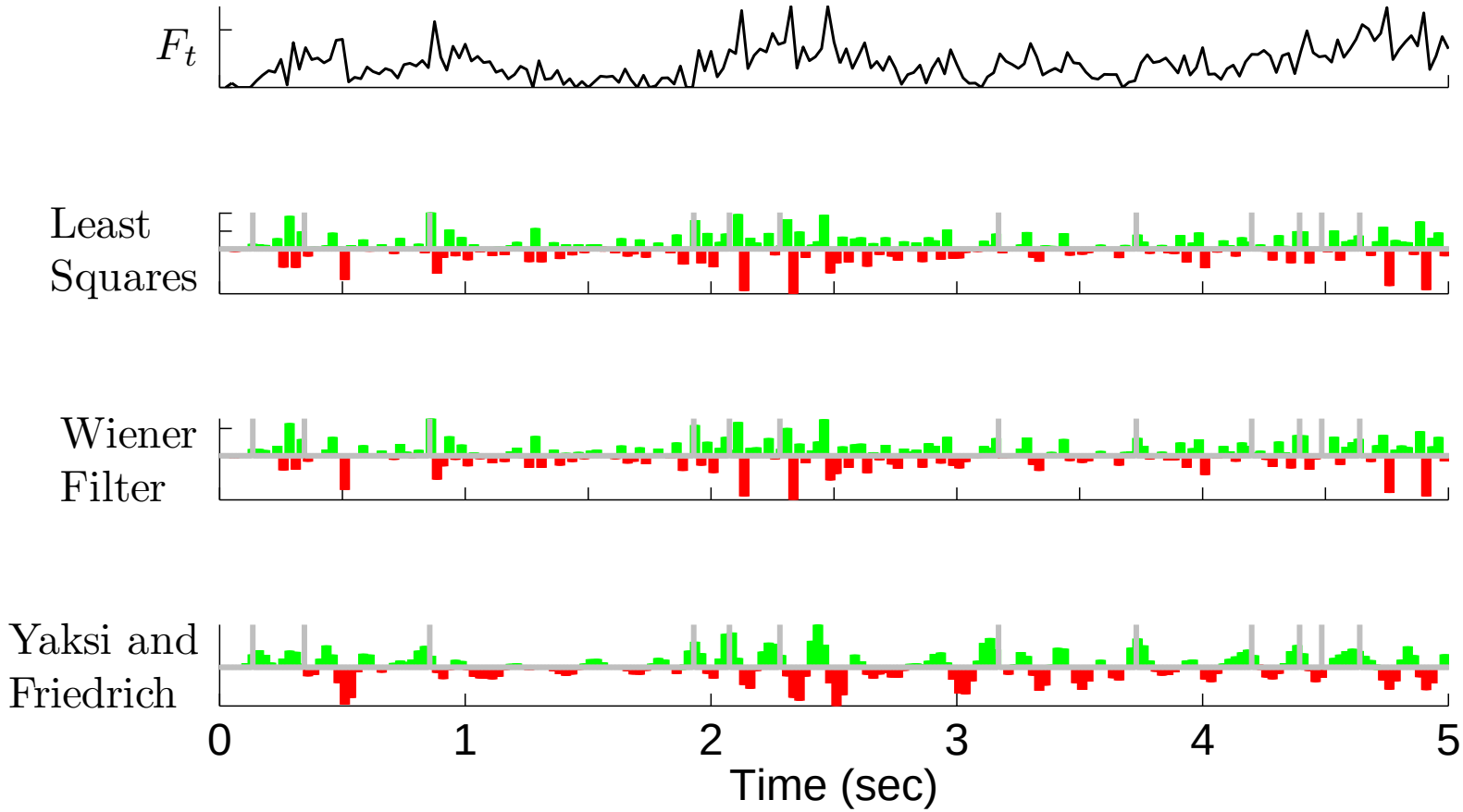
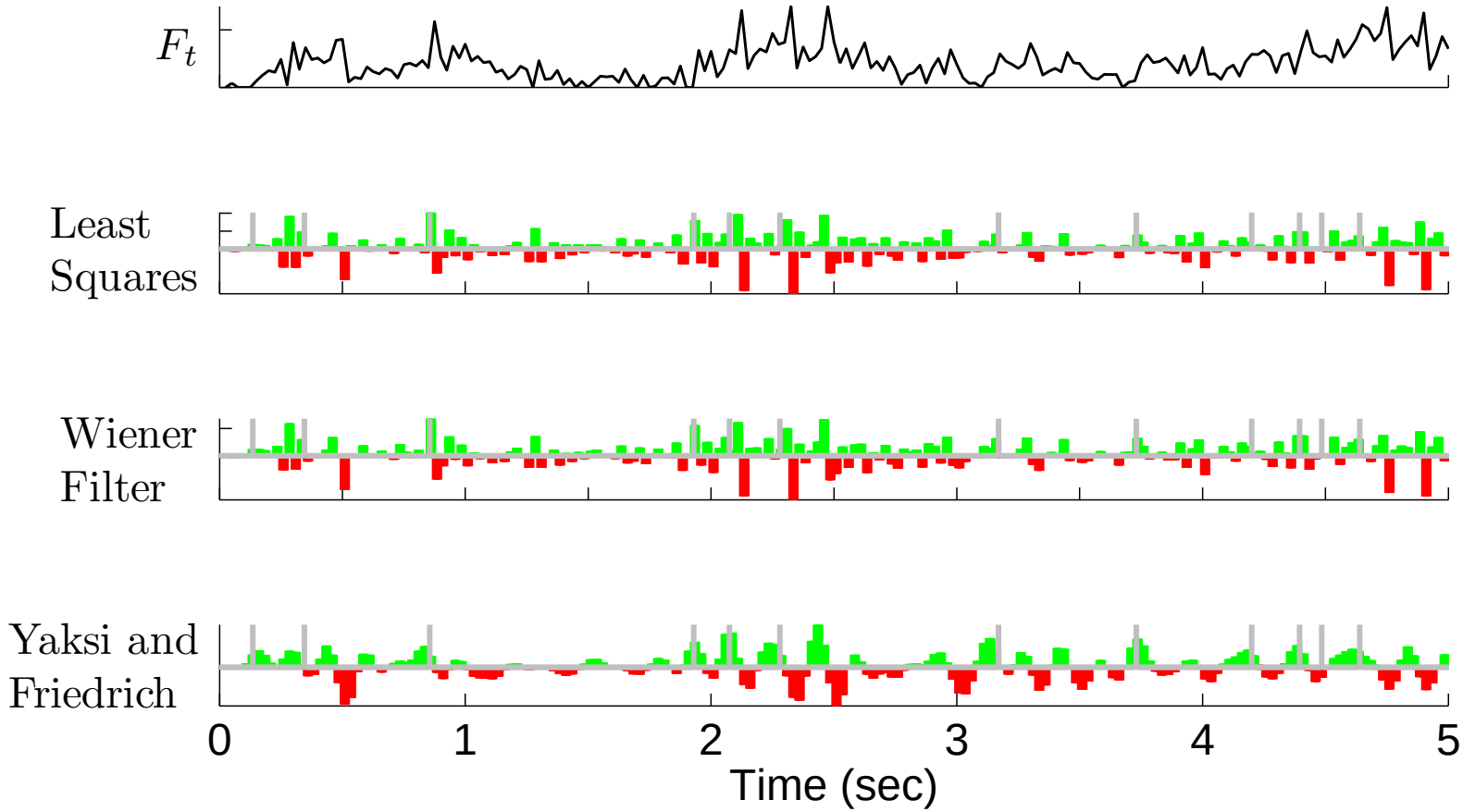
March 1, 2008

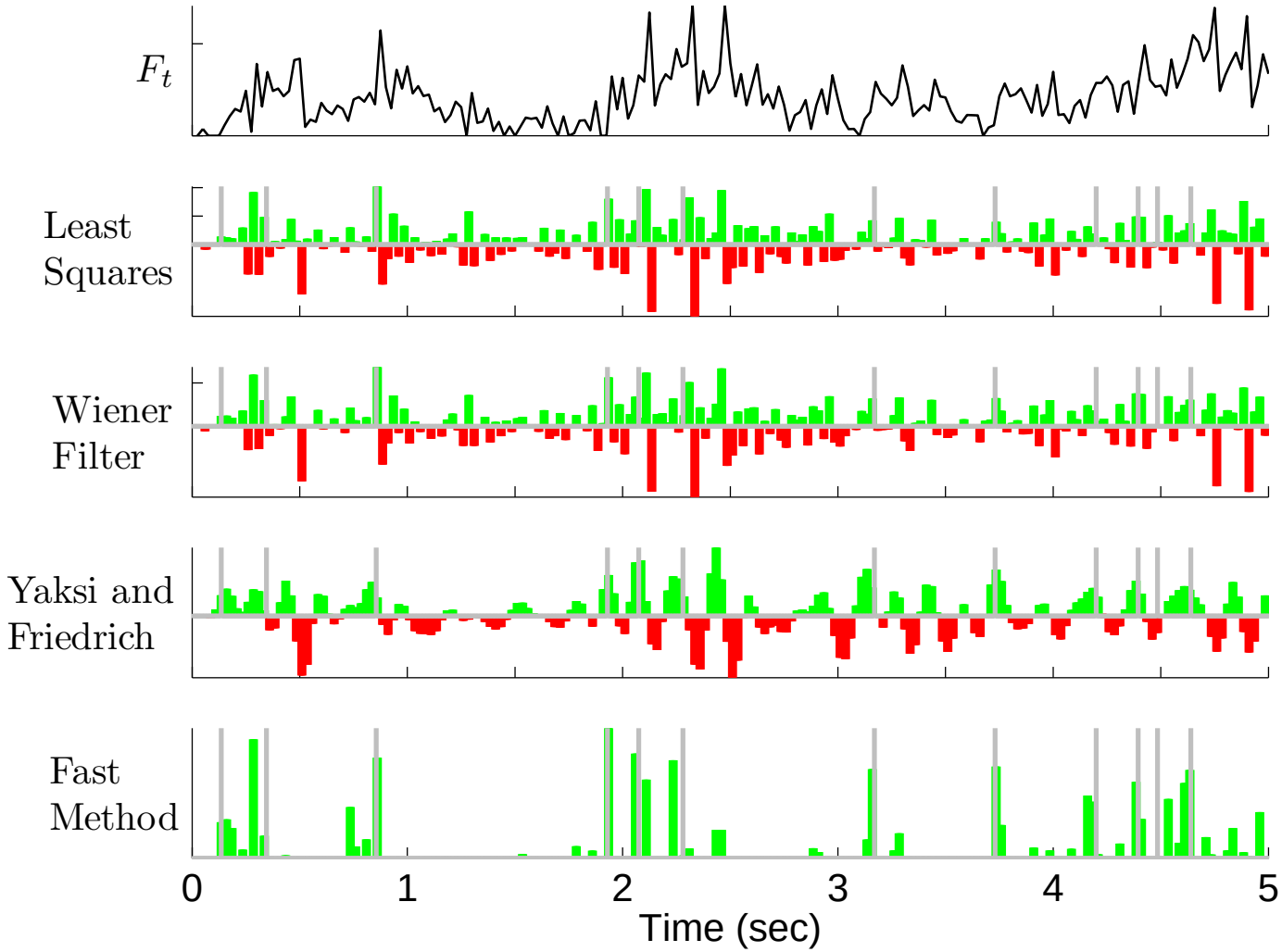


$$F_t = Ae^{-t/\tau} * n_t + \varepsilon_t$$


F_t
Least Squares
Wiener Filter
Yaksi and Friedrich
0
1
2
3
4
5
Time (sec)



- spike trains are non-negative
- stimulus dependence
- observations are intermittent



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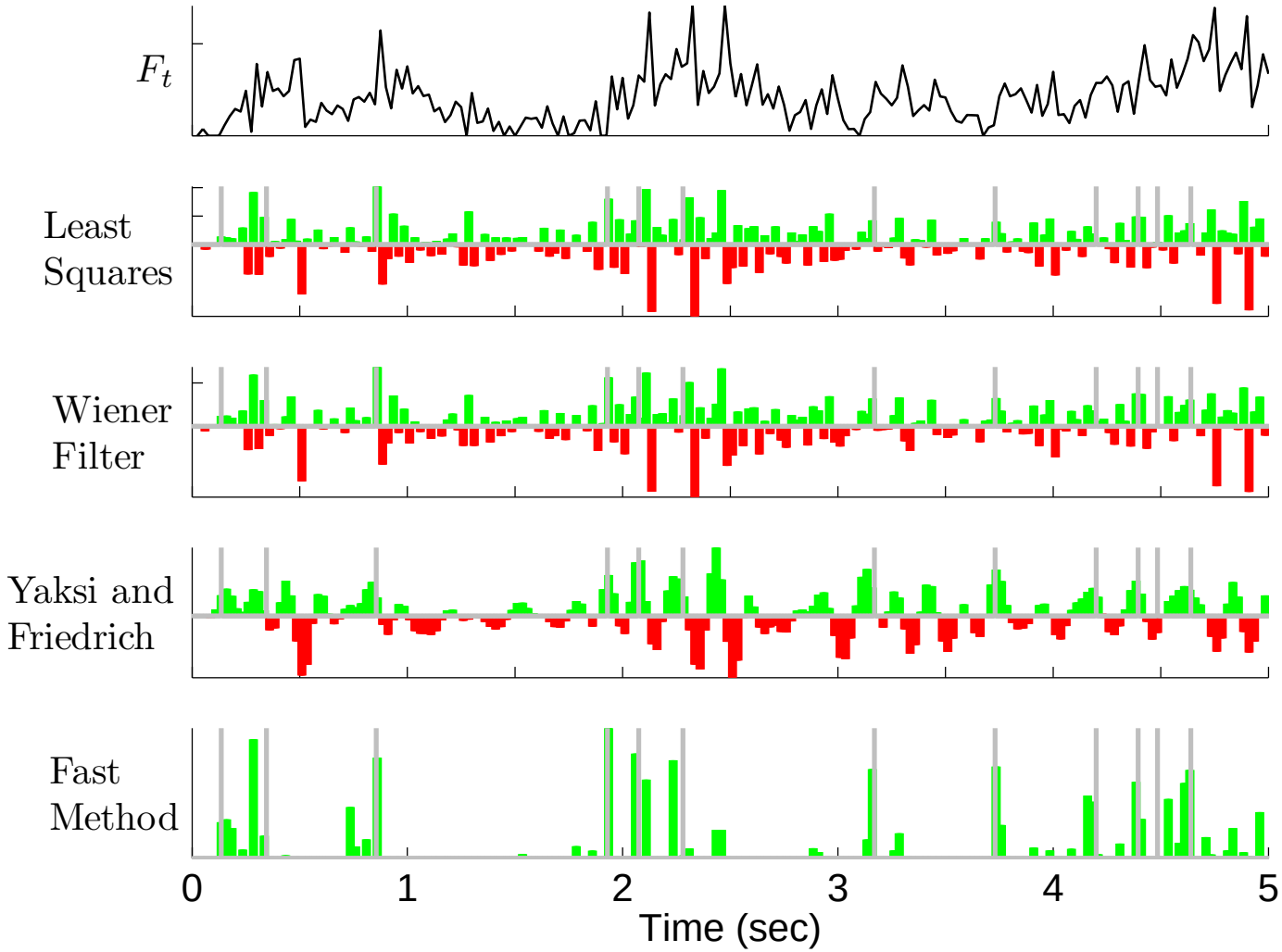
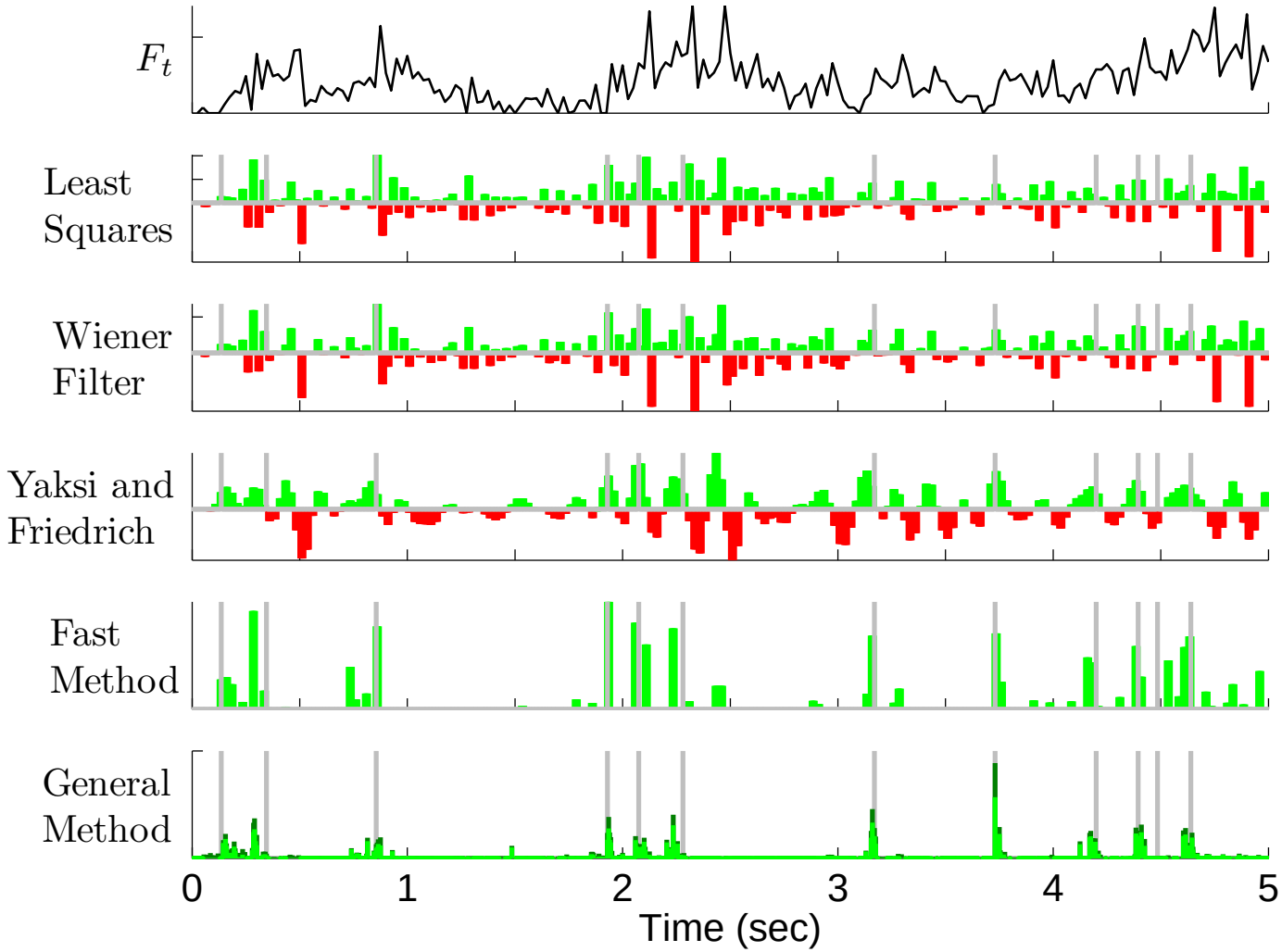


- stochastics are non-Gaussian
- fluorescence saturates
- errorbars



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