Review for "Moments of the Distribution of Okazaki Fragments"

General editing suggestions for consideration:

1. In the Abstract, perhaps write out the words third and fourth instead of using 3^{rd} and 4^{th}.

2. Remove "the" from "in the explicit form" in the second sentence of the abstract:

"Given the expression for … and obtained results in explicit form."

3. Last sentence of the abstract, replace "its" with "the distribution's":

"Having done … we calculated the distribution's skewness and kurtosis."

4. Page 1, line 2: Perhaps rearrange this sentence:

"Denote the number of Okazaki fragments at time $t \geq 0$ by $N_t(\omega)$."

5. In equations (1) and (2), are they any conditions on λ, e.g., $\lambda > 0$?

6. Page 1, line 9: perhaps better to replace "has been" with "was":

"In [2] it was proved that *g* defines a …"

7. Page 1, line -3: I'm not sure that you need i.e.

8. Page 2, line 1: perhaps write out "as *t* goes to infinity" instead of denoting this symbolically; I'm not really sure which is more appropriate, maybe symbolically is better; either way, you need an "as" in that sentence

" … limits as *t* goes to infinity and the skewness …"

9. Page 2, line 7: I think you mean Figure 1 instead of Figure 2

"Using the program from Figure 1 we evaluated …"

10. Page 2, line 10: rearrange and again may want to replace symbolic $t \rightarrow \infty$ with "as *t* goes to infinity"

"Calculating the limits of $n_1(t)$, $n_2(t)$, $n_3(t)$, and $n_4(t)$ as *t* goes to infinity with the same parameters …"

11. Page 2, second paragraph: When I first read the paper, I wondered if there was any particular reason for choosing the parameter values as $a = 0.4$ and $\lambda = 1$. Do the graphs act similarly for other parameter values? Would it be possible provide some reasoning behind why these particular values were chosen?

12. Figure 3, maybe write out first, second, third, and fourth moments (instead of 1^{st}, 2^{nd}, etc.)

13. Page 3, line 8: add the word "with"

"… mean value and variance (as before, with $a = 0.4$ and $\lambda = 1$) in Figure 4."

14. Page 3, line 9: maybe worthwhile to remind reader that these limits are at infinity? Also, throw in a "the" before mean, variance …

"The limits of the mean, variance, … kurtosis as t goes to (approaches?) infinity are …"

15. Figure 4 caption: The mean, variance, skewness and kurtosis values of _____. The caption could be more specific.

16. Page 4, line 7: more clearly indicate that i is an integer:

"… the approximate value for g_i, $i = 0, 1, 2, \ldots, 10$, where …"

17. Page 4, line 11: extra word inserted?

" … is not far from the one for the normal …"

18. Page 4, line 10: peakness or peakedness

19. Page 4, line 10 – 11: this sentence is not clear; are you talking about the skewness of the normal is 0? The sentence only seems to be addressing the kurtosis, not the skewness.

"The degree of peakedness of this … , for the normal distribution should be 0" <- ??

20. Page 4, line -5: semicolon and comma?

" … positively skewed; i.e., if the distribution …"

21. Page 4, line -2: for consistency, put () around your formula number:

"… exponential complexity of formula (3)."

22. Figure 5 caption; I just feel like more detail is necessary

23. Page 5, third reference; capitalize Volume

General comments:

It's a well-written paper. I find it fascinating that the authors were able to get an explicit expression for the third and fourth moments of this distribution. I'd still like a little more information on why the parameters of $a = 0.4$ and $\lambda = 1$ were chosen. I can understand that $\lambda = 1$

was probably chosen to simplify the expressions, but why $a = 0.4$ in particular? Can you give us any idea how the moments are affected by different values of a?

The notation used in the paper was very clear. The way that formulae were derived and presented flowed nicely.

My only other comment for additional information in the paper is in the comparison of the new distribution g to the normal distribution. I think the sentences about skewness and kurtosis comparisons are a little confusing. Also, why would it be of interest to compare this new distribution to the normal distribution?

Thanks for an enjoyable read on a distribution that was new to me!