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I find the article interesting and methodologically useful for understanding the effect of signal filtering features on the physical interpretation of results. It can only be published after being included in it all answers to the questions presented below and correcting the manuscript accordingly.

1. On page 2, the authors note the difference between their approach to the analysis of correlations and the approach [16,17,20], which consists in using the whitening procedure instead of notching. From the text of the article, from this page onward, it appears that this technique does not significantly change the properties of the residuals and the corresponding correlations between the Hanford and Livingstone data, detected in [16]. In fact, the whitening procedure leads to a radical change of spectrum of both noise and templates. This affects the binding of the template to the Hanford and Livingston data, the determination of residuals and cross-correlations of residuals. The confirmation of this thesis is presented in the reviewed paper in Figure 1. Here, the template decays monotonically towards low frequencies (at times shorter than 0.125 sec.), while this effect is absent in the original (not smoothed) template. Thus, whitening reduces the contribution of low frequencies to the residual correlations, and the proposed approach cannot be simply comparable with the results [16,17,20]. This circumstance must be emphasized in the article.

2. Particular attention should be paid to the analysis of correlations of residuals for GW150914 (see Figure 1). This event has one of the largest SNR and was investigated in detail at [16,17,19,20]. In the article, the authors again turn to the analysis of the correlations of residuals for this event and present the results in Fig. 1. Unfortunately, the authors do not discuss the differences between the obtained correlations and the results [16,17,19,20].

Their analysis seems to be extremely important for understanding the influence of the whitening procedure on the structure of the correlation function. The most important of them is the shift of the global minimum (-0.75) into the zone 0.05-0.075 sec., where the template is already practically negligible compared to the noise level. This zone is significantly removed from the chirp domain, while at [19,20] the global minimum of correlations is reached as once in the chirp zone. As can be seen from Fig. 1, the amplitude of the correlations in the chirp zone is now about - (0.25-0.5) and is not statistically significant compared to the global minimum (-0.75). In addition, the significant discrepancy between yellow and blue curves for full strain correlations and residuals in the zone 0.025-0.05 sec. In this zone, the influence of the template is already weak in comparison with the noise, and the behavior of the correlations should practically coincide with each other, as is the case after the ringdown effect, at times of 0.15–0.175 sec.

However, the greatest surprise is the almost complete coincidence of the correlations of the residuals (yellow curve) and the total signal (blue curve) in the range of 0.1125-0.125 sec. In this zone, the amplitude of the signal from the template is maximum, but it does not contribute to the correlations! The same effect takes place for other events presented in Figures 2-4. For these events in the chirp zone, the correlations of residuals and correlations for the strain are almost the same. This result seems to be extremely doubtful and requires detailed study and explanation, before formally assessing the statistical significance of correlations.

3. I believe that the article should be supplemented with an Appendix, where all the necessary templates are plotted similarly to [19] and the likelihoods for them are presented. This will greatly simplify the understanding of the results.