Response#2 to the refers#1

First of all, I would like to thank Referee #1 for their understanding of my response to the previous report.

According to the second referee's report, the mistakes identified in comment pertain solely to the intermediate formulas and do not affect the final result. In his respected opinion, the result—namely the dispersion relation—remains the same as the one derived in the comment.

The response on the second report of Referee #1 is as follow:

Mistakes in the origin paper by Pokhotelov and Balikhin are well indicated in the main text of our comment paper. These mistakes are not only in the intermediate steps of calculation (Eqs. 3 and 4) but also in the final results relatives to the parameters of Weibel instability which is the subject of the original paper:

- The derived expression for $Re(\omega)$, which defines the oscillation frequency of the Weibel mode, significantly differs from the formulation reported in Eq. (13) of the original paper by Pokhotelov and Balikhin

$Re(\omega) = \pm\omega_c \frac{T_\parallel}{T_\perp}\left(-\left(\frac{T_\perp}{T_\parallel}-1\right)\left(1+\frac{2}{\pi}\frac{T_\parallel}{T_\perp}\right)+\frac{2}{\pi}\frac{T_\parallel}{T_\perp}\frac{k^2c^2}{\omega_p^2}\right)$ in our comment

$Re(\omega) = \pm\omega_c \frac{T_\parallel}{T_\perp}\left(\left(\frac{T_\perp}{T_\parallel}-1\right)\left(1+\frac{2}{\pi}\frac{T_\parallel}{T_\perp}\right)+\frac{2}{\pi}\frac{T_\parallel}{T_\perp}\frac{k^2c^2}{\omega_p^2}\right)$ in Pokhotelov and Balikhin

- The expression for $Im(\omega)$ in the original paper (Eq. 12), representing the growth rate of the Weibel mode, contains mistakes: Pokhotelov and Balikhin use $|k|$ instead of k, despite the fact that the wave number is defined in instability theory as a positive real quantity.
- The expression for $Re(\omega)_{max}$ in Eq. (15) of the original paper, representing the oscillation frequency of most unstable Weibel mode, contains errors:

$Re(\omega)_{max} = \mp\omega_c\left(1+\frac{4}{3\pi}\frac{T_\parallel}{T_\perp}\right)\left(1-\frac{T_\parallel}{T_\perp}\right)$ in comment

$Re(\omega)_{max} = \pm 058\omega_c\left(1-\frac{T_\parallel}{T_\perp}\right)$ in Pokhotelov and Balikhin

-The expression obtained in comment is clearly different than that in the original paper.

-The sign is inverted: $\mp$ in our comment but $\pm$ in the original paper (- for the right polarization and + for the left one).

- The dispersion relation obtained in the original paper (Eq. 09) is not similar to that obtained in our comment (C15, C16) by using $|k|$ in place of k:

-this is a calculation mistakes

-the introduction of $|k|$ is not in agreement with the temporal instability where the k is treated as a positive real and ω as a complex:

$-\frac{k^2c^2}{\omega_p^2}-1+\frac{T_\perp}{T_\parallel}+\frac{1}{kv_{T\parallel}}\frac{T_\perp}{T_\parallel}\left[\omega\mp\omega_c\left(\frac{T_\parallel}{T_\perp}-1\right)\right]Z(\zeta)=0.$ Eq. (C15) of the comment

$-\frac{k^2c^2}{\omega_p^2}-1+\frac{T_\perp}{T_\parallel}+\frac{T_\perp}{T_\parallel}\left[\frac{\omega\pm\omega_c}{v_{T\parallel}k}\mp\frac{\omega_c}{v_{T\parallel}k}\frac{T_\parallel}{T_\perp}\right]\left(i\sqrt{\pi}-2\frac{\omega\pm\omega_c}{kv_{T\parallel}}\right)=0,$ Eq. (C16) of the comment

$\frac{T_\perp}{T_\parallel}-1-\frac{k^2c^2}{\omega_p^2}+\frac{T_\perp}{T_\parallel}\left[\frac{\omega\mp\omega_c\left(\frac{T_\parallel}{T_\perp}-1\right)}{|k|v_{T\parallel}}\right]Z\left(\frac{\omega\pm\omega_c}{|k|v_{T\parallel}}\right)=0,$ Eq. (09) of the original paper