Dear reviewer,

Thank you for your thorough review of the article and for providing additional comments, which complement the feedback from the first reviewer. Please find attached our response, which outlines the corrections made to address your insightful comments.

- Section 2. Table 1 presents some problems. Line of sight, in the unit column it would be better to replace "vector" with "unit vector" probably in "m" (a vector has a unit). → We think $\overrightarrow{LoS}$ is a vector because it is defined by a direction (radar to target) and a length. However, we agree that the unit of the vector is m. The corresponding line in the table is changed as follow:

Name	Abbreviation	Unit	Definition
Line-of-Sight vector	$\underrightarrow{\mathrm{LoS}}$	m	Vector between radar and target points

  We also noticed that it was cited as $\overrightarrow{dLoS}$ in Figure 9 and in the text. This has been corrected by $\overrightarrow{LoS}$.
- Radar wavelength, the radar is not limited to 0.8 cm - 10 cm (e.g. the L-band is more like 23 cm). → Indeed, the range is wider. To avoid confusion, the sentence about the range is removed since it ranges from 3 cm (~C-bands) to 23 cm (~L-bands) for satellite InSAR, while for the used GB-InSAR, it operates in Ku bands (from 16.7 to 25 mm). The definition is now: Radar wavelength = Spatial period of the signal
- Synthetic antenna length, "L can be infinite", L is constrained by the fact that a target must be during the acquisition within the footprint of the beam and therefore cannot be infinite (even if several km). → The definition is changed to account for the comment:
  - In the case of Linear GB-InSAR, rail length used to focus the radar image (which is shorter than the total rail length). L is generally 2 or 3 m.
  - In the case of satellite InSAR, L can be several km.
- Range Resolution, "vertical" should be "line of sight". → Vertical is changed to "Resolution along the Line of Sight".
- Azimuthal resolution, you should add "parallel to the sensor's motion", "horizontal" does not fully define the direction. → The definition is changed to "Resolution of the radar image along the line parallel to the sensor's motion".

- Section 2.1.4, Table 2 specifies 17.1 to 17.3 GHz, it seems to me that this restriction is only for the Ku band (GBSARs operating on other bands exist), it needs to be clarified. → The restrictions provided in the table are specific to GB-radar operating in the specific BW ranging between 17.1 and 17.3. For clarity, the table is removed, and a better explanation is given directly in the text: Specifically, for GB-InSAR operating in the frequency range of 17.1 to 17.3 GHz, the maximum limits for the frequency bandwidth BW and the power output are 200 MHz and 26 dBm, respectively.

- L260 EQ 11. The equation seems incomplete (at least one vector is missing to the right of the matrix). In addition, an element of the matrix must be missing a "-" sign (the determinant of the matrix is different from 1 as a rotation matrix should have). → The vector is removed in the left side of the matrix for the homogeneity. We also rechecked the formula and it seems fine. We do not understand where the – should be. We checked also within the code, and by applying this formula, the resulting transformation is ok. We did not change the formula.

However, we agree that there is a problem of consistency in the Equation 13. For the homogeneity of the equation a matrix T defined by the components of $\overrightarrow{LoS}$ is added. The text is now: Each point coordinates can be converted from the *global* geographical coordinate system to the new *local* coordinate system by applying the translation matrix T defined by the vector $\overrightarrow{LoS}\begin{pmatrix}\Delta x_{global}\\ \Delta y_{global}\\ \Delta z_{global}\end{pmatrix}$ followed by the rotation of matrix Ω:

$$\begin{cases} \mathrm{T} = \begin{pmatrix}\Delta x_{global}\\ \Delta y_{global}\\ \Delta z_{global}\end{pmatrix} \\ \Omega = \begin{pmatrix} a & -b & 0 \\ b & a & 0 \\ 0 & 0 & 1 \end{pmatrix} \end{cases} \quad .(1)$$

The relation linking the coordinates of each point in the *global* geographical coordinate system and the new *local* coordinate system is:

$$\begin{pmatrix} x \\ y \\ z \end{pmatrix}_{local} = \Omega . \begin{pmatrix} x \\ y \\ z \end{pmatrix}_{global} + \mathrm{T} \quad (2)$$

- L306 a typo after "Figure 10" → The typo is removed.
- Table 5: "Location" columns must mention the unit ([m]?) → The unit is added.
- Figure 11 the scale (65) seems too large (compared to the 200m) and does not mention the unit. Maybe just remove (the 200m line could be enough)? → Indeed, there is an error, and the scale is removed from the image as suggested.