Comments on the paper by Mazonka "Empirical data to determine transonic drag coefficient"

The papers is concerned with modelling of a long-range ballistic motion of a projectile. Proposing a compromise between the computational simplicity of the model and its physical relevance is the main objective of the work. I believe that this goal has been achieved and the paper deserves publishing in the CTAC'16 proceedings. However, the following issues need to be addressed prior to the acceptance of the paper.

1. The page limit for this conference paper is 8 pages, while this submission has 14. Thus the author should condense the manuscript by 6 pages before the paper could be accepted. I believe this is achievable by simple reformatting outlined below.

   - Having a detailed table of contents for such a short communication is a waste of space. If removing it completely is against the journal policy, it should be significantly shortened by reducing the number of individual sections and subsections. The overall paper structure can still be maintained by replacing the `subsection{}` command with `paragraph{}`.
   - Six figures can be combined into just two. Namely, the current Figures 1, 2 and 6 can be combined into Figure 1(a,b,c,d) containing a 2×2 panel array and Figures 3–5 can be combined into Figure 2(a,b,c) containing a 1×3 panel row.
   - Re-arrange 2-column Table 1 into 4 columns, possibly, rephrasing the entries to make them shorter.
   - Abbreviate non-essential text, e.g. in the Introduction.

2. I am confused with the description of the chosen coordinate system: are the directions of coordinate axes defined and fixed at the initial point of the trajectory or do they follow the trajectory? It is specified that the X- and Y-axes are "along the tangent to the Earth's surface" and "up", respectively, but it is not clear at what point.

3. Equation (2) is written in a scalar form. I am not sure how to understand that as the forces listed in the right-hand side of this equation have different geometrical directions. This is also inconsistent with vector component equations given in section 2.2.

4. The second constitutive equations on page 6 is dimensionally inconsistent. Please correct.

5. It is meaningless to present the values of various physical quantities with 6 significant digits. The considered model is quite crude and cannot possibly be so accurate. In fact, such a numerical representation is physically meaningless: the radius of the Earth surely would change by much more than 1 meter when the projectile travels over a realistic terrain for a quarter of Earth's circumference considered here, and the gravity acceleration will surely change by more than 1 micron per second squared over such a distance.

6. Figures 2–5 should have proper axis labels and axis font size must be increased so that the tick mark values are clearly readable.

7. The paper would benefit from proofreading by a native English speaker. English words are misused on several occasions: use "around threshold" rather than "surrounding threshold", "being a constant" rather than "being a number", "inversely proprtional" rather than "counter proportional", "cross section area" rather than just "cross section", "end user" rather than "final user" etc. The complete list of the required corrections would be too long to be given here, but they would be obvious to any native speaker.