Review of the brief communication by Ibanez et al. entitled:

A nonlinear self-similar solution to barotropic flow over varying topography

This work focuses on finding analytical solutions for steady barotropic shallow-water flows over variable topography. Several key assumptions have been made: topography has special spatial dependence; flow goes only along the topography isolines; flow is steady; Rossby number is small; sea surface height has some other special spatial dependence. The manuscript is publishable, but its impact will be small, because the analytical solutions are way too special and, probably, not physical. Most likely, the obtained solutions are linearly unstable and, therefore, not reachable, and the relevant dynamics should be unsteady and full of topographic waves radiating from the large-scale flow and nonlinearly interacting with each other. Nevertheless, publications like this one are useful, as they help to maintain free of rust some classical mathematical approaches.

More specific and minor comments are listed further below.

• Somewhere in the main text, can the concept of expanding and intensifying (contracting?) jets be made more explicit? Since the expansion/contraction would eventually lead to violations of the basic assumptions, it should be explicitly stated that the focus is on some kind of intermediate asymptotics. The same applies to the flow depth, which should formally outcrop somewhere.

• It seems that the sign in front of kinetic energy (by the way, it is not defined) in (1) should be minus.

Page 2. It should be highlighted somewhere, that the problem is formulated on an f-plane. What would happen in the case of a β-plane? Can the additional term be easily absorbed into topography? By the way, the reference to the β-plume is somewhat unclear and even awkward — please, explain better what is meant by it.

Equation 2. The variable h_e should be h_E. There are other instances of this typo throughout. Line 15: Does the notation $(,)$ represent an undefined operator or are there missing 'J's? By my calculations, the 2nd term on the right-hand side, f should be an ω; please, check this out.

• The relationship between η and h is annoyingly never defined, although it becomes implicitly clear later on that h is not the full depth, but the depth in the state of rest.

• Can it be explained, mathematically or physically, why $\gamma < -1$ induces "compressing" jets?

• Put equation (5) over one line. Why do you require the y-dependencies of terms 2 and 3 to balance?

Page 5, line 12. "pseudo velocity"?

• Discussion: Are there are any notable future steps that can be taken?