In this paper **"Devito (v3.1.0): an embedded domain-specific language for finite differences and geophysical exploration"** has been introduced. The authors present the new version of their numerical tool which discretises the governing equations written at a higher level and describes how it can be used to solve the full waveform inversion problems, which fits in the scope of the journal. Although the paper is very well written some major descriptions are missing from the manuscript, which reduces the overall quality of the paper. I advise the authors to revise some of the claims they made.

Major Issues:

1. Page 5: lines 10-15, the authors claim that "Devito is compatible with a wide range of tools available in the Python software stack", but it is not clear if this can be done on-the-fly using the operator function as devito produces a low-level C99 code. In short how the data is managed between C and Python is not clear, if file I/O is used then how is it advantageous?
2. Page 6: lines 1-2, the authors claim that CSE is used as an optimisation technique, as this is based on SymPy's CSE the reference given from 2015 is obsolete as the CSE capabilities of SymPy has changed a lot after that. Also, specifically the authors should address the following
    a. CSE of SymPy considers the function arguments as sub-expressions, as all the operators are based on "Function" class how this is handled?
    b. Also, the authors should specifically mention which version of SymPy is Devito compatible with
3. Page 6: line 10, "Devito provides two symbolic object types that mimic SymPy symbols, enabling the construction of stencil expressions in symbolic form", this statement needs justification as the next lines the authors claim to use "sympy function" which is not of type symbol, these two points contradict each other from SymPy point of view.
4. Page 6: line 28, "TimeFunction" is it derived from "Funciton" class given in line 13 of page 6?, this should be clear in the manuscript
5. As mentioned in the conclusions, such a framework can be applied to CFD problems. More examples should be given and I feel that only OpenMP parallelisation reduces the problem sets that can be solved for CFD, this should be clearly mentioned. Also, authors should provide a comment on the half-node interpolation capabilities of the framework as this is essential for most CFD cases

Minor issues:

1. Type-setting fractions appearing in text should be inlined this should be implemented during type-setting stage
2. Page 16: line 3 it should be 10th and not 10th
3. Page 21: line 16 reference is not proper
4. The text in figures 16-18 are too small to read on print.
5. Page 8: Figure 3 is confusing due to lack of borders
6. The full form of the acronym FWI is repeated at two places this should be corrected.
7. Figures 16-18 How the operational intensity is evaluated?