

To whom it may concern,

I confirm that the student Luan Malikoski Vieira has spent 8 weeks in the period 1-July-2018 to 31-August-2018 in an internship full time work at the BSC. Luan has collaborated in the study and implementation of a reduced order model (ROM) for controlled source electromagnetic (CSEM) models. Find a summary of the main performed tasks below.

1. Literature learning of theoretical concepts on a priori reduced order models and edge finite elements, which were mandatory to achieve the minimum level required to manipulate our internal benchmark codes.
2. Performance comparison study of two different CSEM approaches: total and primary field formulations. This required several constructions of different adapted spatial grids and a few code modifications.
3. Efficient implementation and performance study of a priori reduced order models using the total field CSEM formulation. This step required advanced code modifications.
4. Robust and precise analysis of results. Writing of a scientific report summarizing the contributions.

My personal evaluation of all the aforementioned Luan's work is extremely positive. Luan worked with precision and perfect discipline. He reached all the scheduled objectives showing a huge capacity for both, problem interpretation and its technical development. He also exhibited an excellent critical thinking.

Overall, Luan has demonstrated an extremely useful technical and code implementation skills that, jointly with his impressive attitude and self-improvement desire, helped us to advance in the ROM implementation for CSEM problems.

Sincerely,



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