

ASSESSMENT FORM FOR SUPERVISORS

WORK

COMMENTS

The thesis project consisted in a comparison study of different cooling models in numerical simulations of the interstellar medium. This is extremely relevant in the context of galaxy and molecular cloud simulations, whose results rely on the robustness of the underlying thermodynamical models. Overall, the student did a solid work **independently** and we are very satisfied with his performance. The results are interesting and **potentially publishable (although a bit more work is necessary for that)**.

THEORETICAL INSIGHT AND OWN CONTRIBUTION

After a preliminary study of existing literature, the student showed a **great understanding** of the topic. He had good ideas on how to tackle the problem, **suggesting improvements** to the code and simulation setups that were not considered in the initial thesis project plan.

LEVEL OF SKILL

The student showed very **high proficiency in coding**, editing complex pre-existing codes and **running independently advanced simulations**. Relying on a solid physics background, he was able to suggest adequate approaches to implement the cooling routines in the code.

WORK METHODS

We organized the project with an initial review of literature, a training phase to learn the simulation codes, and finally an active research phase where the students ran analyses his own simulations. The last phase was the core of the project.

EFFORT

The student showed exceptional dedication and invested significant effort and time in carrying on the project. He was very interested in the problem and showed enthusiasm in achieving the most relevant results as possible.

DEGREE OF INDEPENDENCE

The work was carried out independently by the student, with regular meeting to assess the developments of the project. Minimal input was needed, and some supervision was required only to help delimiting and clarifying the scope of the project.

PROGRESSION

The project was characterized by a steep learning curve, since it required to run advanced 3d simulations on computer clusters. The student dealt well with the training phase, which took less than a month, and started immediately testing his own implementations in the code. Presenting the results in a clear and concise format took some effort at the beginning, but we are satisfied with the improvement demonstrated in due course.

SUITABILITY FOR PHD

Based on the experience of supervising Johannes, and the results achieved in his master thesis project, we think he is definitely suitable for a PhD program, thanks to his strong passion for research, critical thinking skills, perseverance, and commitment.