

Strenghts	Weakness
This proposal ask sfor 16h of GIANO-B to determine the effectivetem- perature, surface gravity, metallicity and individual element abundances of benchmark M dwarfs in orderto develop and test methods developed by the proposers that will be applied to PLATO M dwarf targets. This proposal ask sfor 16h of GIANO-B to determine the effectivetem- perature, surface gravity, metallicity and individual element abundances of benchmark M dwarfs in orderto develop and test methods developed by the proposers that will be applied to PLATO M dwarf targets. PLATO is an important future ESA mission and it is crucial to test and develop now reliable methods that will be applied to the mission targets.	However, it is unclear why these observations are mandatory to test these new methods and the simulations can not be performed ad-hoc. Sample selection is also not clearly described.
The aim of validating new methods for the exploitation of the PLATO mission comes at the right time.	The team proposes to validate some methods to determine the abun- dance of individual elements in M dwarfs, by using spectral lines in the near infrared. It is not clear whether this validation can be performed only with real data, or could be performed, at a zeroth-order, with synthetic spectra. In Box 10 it is indeed mentioned the use of the SME package, for spectral fitting. Is this validation already at a stage where only real data can confirm the robustness of the method? Or the authors might first perform some simulations? For what concerns the sample selection, it is reasonable that the targets "are spread in effective temperature and metallicity", but it is not clear in what sense the catalogue by Pancino et al. 2017 needed to be complemented. A short explanation would have been helpful.
Moderate amount of telescope time for a potentially high scientific re- turn, well exploiting the characteristics of GIANO, in particular the wide spectral range. The feasibility is well justified and analysis techniques well presented.	The timely aspect of this proposal is not great compared to other re- viewed proposals in this pool. These observations could arguably be delayed if the pressure from more timely science is higher. This aspect could be potentially worsened by the relatively small experience of the team with GIANO, likely to lead to delayed analysis of the spectra.

M-dwarfs are prime targets for planet search programs and it is important to get stellar parameters. These observations are an important part of a thesis project for the applicant. GIANO is well suited for these measurements.

The proposal is a project and new and part of a PhD thesis; it applies for 16 hours, the driver being the number of targets (31). This project aims to make spectroscopy measurements of benchmark M dwarfs to determine the effective temperature, surface gravity, metallicity and individual element abundances, in the framework of exoplanetary science (PLATO). The project will make use of GIANO-B instrument. It is addressing an interesting scientific topic and contributes to its solution. It makes an optimal use of the TNG instrumentation and S/N requirements are met. The requested time is well justified, and a complete list of targets is presented. The team presents a data reduction plan and has a good observational background.

This is an interesting and ambitious proposal aiming at performing a chemical abundance analysis of a sample of M dwarfs using GIANO-B spectra. The methodology that will be adopted is based on previous studies conducted with VLT/ CRIRES observations. The scientific rationale for the selected M dwarf sample and the use of GIANO-B is clear and well stated. This study is crucial to develop and test parameter determination methods to be used for future PLATO samples.

Not a particularly well-written proposal. No discussion on how can the team will check the results, at least with a few control stars. Sure you get an answer, but how do you know if it is correct. What model atmospheres will be employed in SME? These are cool stars and the models are more problematic. Ultimately, this work may be important for PLATO when it has found planet, but that is 10 years down the line, so no real sense of urgency. And in 10 years time model atmospheres may have developed to the point to make the current results invalid.

The team does not present neither a data reduction plan nor a publication plan.

The team, although qualified to pursue the proposed research, appears to be under-sized given the scope. The assessment of the reliability of the expected results is crucial and its effort is underestimated by the team.
