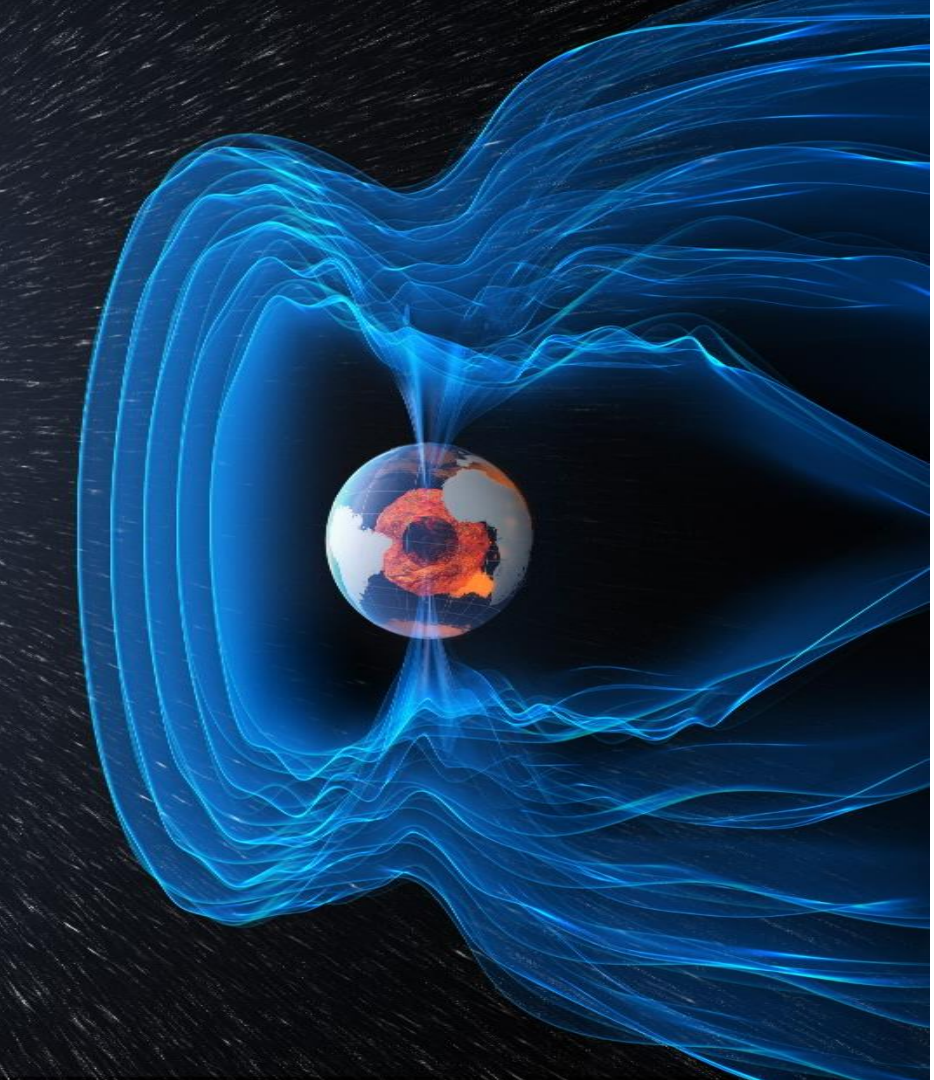
Summer School Alpbach 2022

Comparative Plasma Physics in the Universe

July 12- 21



JURY EVALUATION

Chairman: Ferdinand Plaschke, Technical University Braunschweig

Members:

Gilberto Grassi, ESA Education

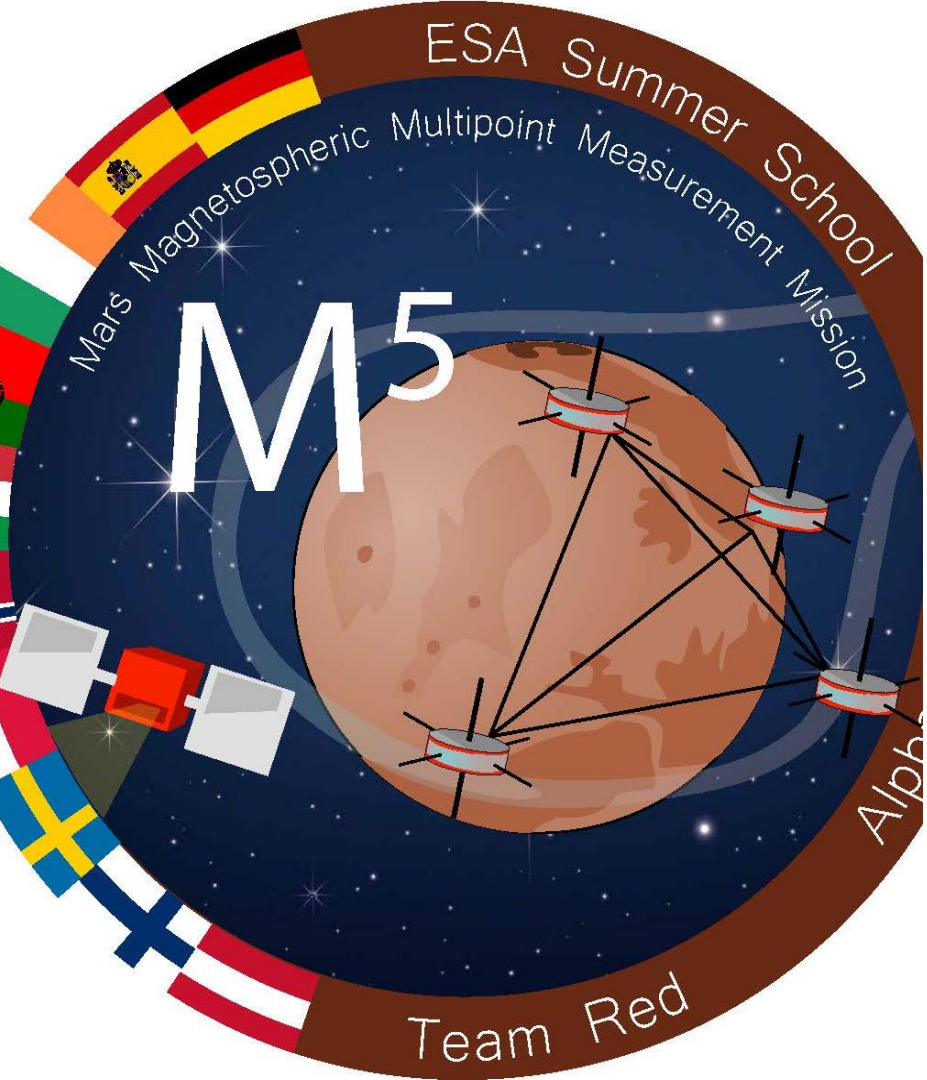
Rumi Nakamura, Space Research Institute Graz

Andreas Geisler, FFG

Ferdinand Plaschke, Technical University Braunschweig

Observing Member: Peter Falkner, ESA, Head Tutor

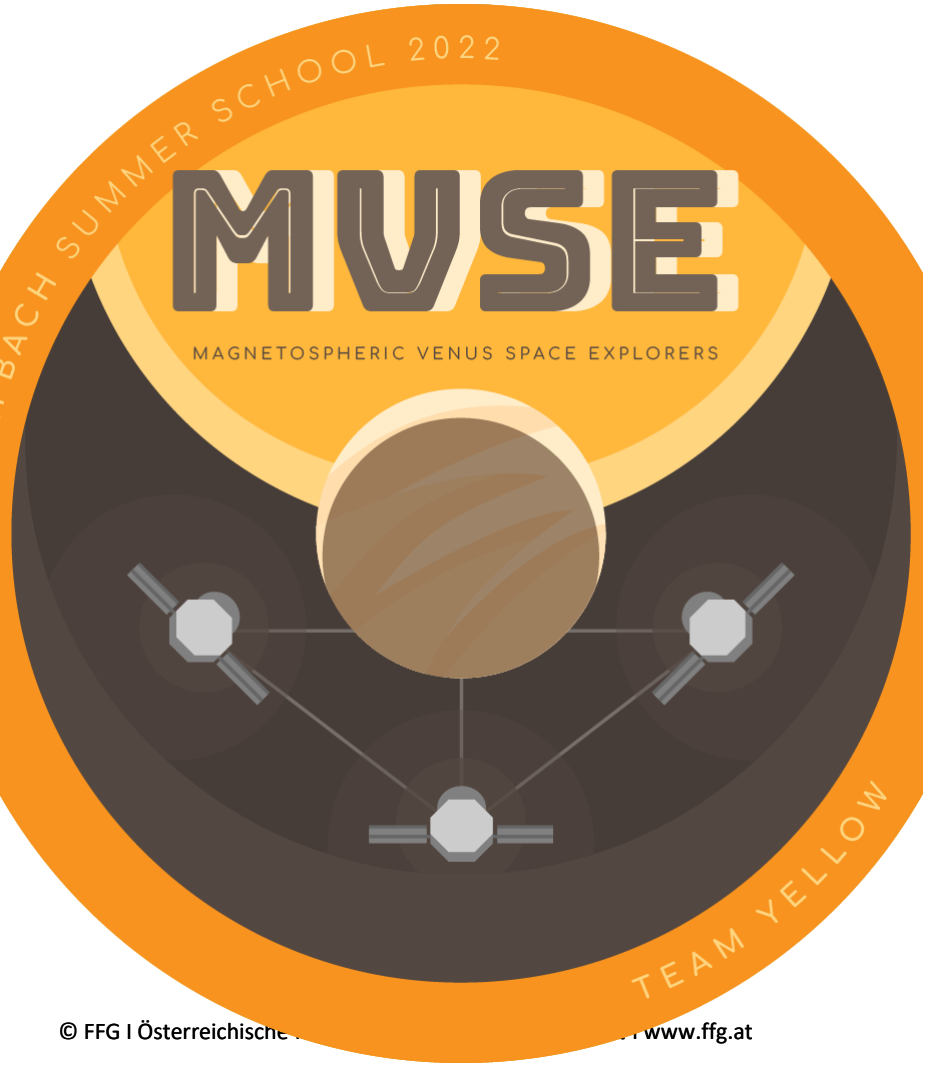
Illustration: ESA



BEST QUALITY OF THE PRESENTATION: M5 MISSION: MARS MAGNETOSPHERIC MULTIPOINT MEASUREMENT MISSION

The Jury believes that the best quality of presentation award should go to the red team. The presentation is a synthesis of everything developed over the course of the summer school. Consequently, the team that has developed the most rounded mission case – in this case for a multi-spacecraft mission to Mars – has a clear advantage when preparing the presentation and the report. The presentation of the red team is found to have the most clear and best structured slides. The performance of the team speakers was excellent. The team was able to answer to all questions posed by the Jury. The written report is also extremely well structured and well written. Overall, the red team is found best in presenting a comprehensive and well-rounded mission case, both orally and in the written form.

Mission Logo Team Red



BEST SCIENCE CASE: YELLOW TEAM MVSE: MAGNETOSPHERIC VENUS SPACE EXPLORERS

The Jury believes that the best science case award should go to the yellow team. The science case should be of most significant importance with respect to the topic of the summer school: “Comparative Plasma Physics in the Universe”. Venus offers the cleanest laboratory to study induced magnetospheres and their impact on atmospheric loss processes. Results obtained in the Venusian environment have direct implications to cometary tail physics. Broad implications with respect to planetary evolution, in general, and to atmospheric evolution during (Earth’s) pole reversal intervals, in particular, are also expected. Thereby, the science case feeds into the question of habitability of exoplanets at other stellar systems. Overall, the yellow team is found to have developed the broadest and most comprehensive science case that excellently fits the topic of the summer school.

Mission Logo Team Yellow

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BEST TECHNICAL CASE: GREEN TEAM FEAST: THE FAR AND EXTREME UV ASTROPHYSICAL SPECTRAL TELESCOPE

The Jury believes that the best technical case award should go to the green team. The technical case should be feasible yet respond to a challenging science question. The proposed payload should be most suitable to fulfill the science objectives. The green team is found to have done an excellent analysis of their entire system and its performance. The team has prepared a very sound proposal for a technically challenging task, to bring an EUV/FUV telescope to space for long term astronomic observations. Most importantly, the team excelled in finding some neat and elegant solutions as answers to their mission requirements by trading off different options. Overall, the green team is found to have developed the best and most thought through payload, mission, and operational concept as a response to their requirements.

Mission Logo Team Green

BEST COMPETITIVENESS: BLUE TEAM CASPER: CHASING GHOSTS IN THE ATMOSPHERE

The Jury believes that the best competitiveness award should go to the blue team. At the and of the day, mission proposals are written to win in a competition, and key factor to win – besides technical feasibility – is the answer to question of scientific value for money. The blue team has presented an interesting science case, addressing an obvious knowledge gap in our understanding of the upper atmosphere and of electrical discharges within it. While the combination of instruments, formation flight and fast triggering of observations pose technical challenges, the mission has been deemed feasible. The promising benefit to cost ratio of the mission is a clear asset, reflecting the ongoing transformation of space activities with regard to commercialization and reuse of space heritage. The mission is a flexible concept that would also allow significant descoping, if required. Overall, the blue team is found to have developed the most competitive mission concept, whose short term implementation appears realistic.

Mission Logo Team Blue

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