Europlanet NA1 Expert Program Report Form

Caitriona Jackman

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Applicant Information

Dr. Caitriona Jackman, Associate Professor, University of Southampton, SO17 1BJ, UK.

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Tel: 0044 2380 592048

Host institute:

LESIA, Observatoire de Paris, Bât. 16, Bureau 205-C, 5 Place Jules Janssen, 92195 Meudon, France

Dates of visit:

June 11th-13th 2018.

Summary of the visit:

The visit was extremely productive. We discussed several things:

1. Dr. Jackman met with Dr. Lamy and 2 colleagues who work on the WIND/WAVES instrument to discuss in detail methods to process this long dataset to extract measurements of terrestrial radio emissions (AKR). Currently this dataset is optimised for looking at the Sun as a radio source, and it has not been used to look at AKR in detail before. We sat together and went through the options to get quick look plots from the data, and then discussed in detail what will be required to extract information such as fluxes and polarisation to build the terrestrial AKR dataset. This will be a huge asset to the community when completed – and we will be sure to publish it widely and make it available to the public via appropriate websites and database tools (e.g. VESPA and the next generation). We discussed and collected a list of relevant scientific papers on this topic, and made plans for Dr. Jackman's student to spend several months completing this work (he will need to visit Meudon for 2 weeks of induction into the dataset first).
2. We discussed a paper in progress to study the solar wind upstream of Saturn and to compare this to Saturn's radio emissions as a way to examine the degree to which the radio data can be used as a proxy for magnetospheric dynamics. We have concrete plans of how to advance this study by looking at SKR data which match times when Cassini was sampling Saturn's magnetosheath (Dr. Jackman took colleagues through this dataset in detail), and using a method recently developed by a mutual collaborator, we planned how to match this magnetosheath dataset to the radio observations. We have an action plan to process the Cassini SKR data into a specific format and to work on a paper detailing the comparison over the coming months
3. We had several other unplanned, but highly interesting and long-term beneficial conversations on topics such as Juno radio observations at Jupiter, timing analysis of auroral emissions from Uranus, and data from Cassini's Grand Finale passes. We also discussed the type of coding tools that will be used to automate the search for specific features in radio data. Finally we discussed an early draft of a joint paper on Saturn's

narrowband emissions. Since returning from the visit, Dr. Jackman has almost completed the suggested corrections and that paper should be submitted soon.

Overall the visit involved some very interesting discussions, and some concrete advances on joint papers and dataset collation. We are very grateful to Europlanet for the support of this collaboration.

Europlanet NA1 Expert Program Reimbursement Form

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Itinerary:

Winchester (UK) June 11th 2018 05:00 to Meudon, Paris. Return June 13th 19:30

Travel Expenses:

TOTAL TRAVEL = €388.87

Monday June 11th 2018: Taxi home to Southampton airport (5am – before any public transport running): £25 = 28.06
Monday June 11th 2018: Taxi Paris CDG airport – Meudon: €90.00

Return flights Southampton – Paris: £157.89 = €177.20

Wednesday June 13th 2018: Taxi Meudon – Paris CDG airport (train strike). €88.00

Wednesday June 13th 2018: Train Southampton airport – Winchester: £5 (ticket swallowed by barrier at machine – cost printed from internet) = €5.61

TOTAL ACCOMMODATION = €355.10

Hotel: Monday June 11th-Wednesday June 13th: £316.42 = €355.10

Daily allowance, Per Diem: 2.5 days

Dr. C M Jackman bank details

IBAN: GB86MIDL40283960015083

Branch Identifier Code: MIDLGB2175V

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