Report on the outcomes of a Short-Term Scientific Mission[[1]](#footnote-1)

Action number: [CA18232](https://e-services.cost.eu/action/CA18232)

Grantee name: Ram Band

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| **Details of the STSM**  Title: A short visit to Prague – “Spectral statistics of quantum graphs with vertices of a preferred orientation”  Start and end date: 14/10/2023 to 23/10/2023 |
| **Description of the work carried out during the STSM**  During the visit of Ram Band to Prague, we held intensive discussions between Pavel Exner and Ram Band. In particular, we held a longer discussion over zoom, allowing the other two collaborators, Aviya Cohen (Israel) and Divya Goel (India) to join. Divya indeed joined, but unfortunately Aviya could not join due to the situation in Israel. Prior to the meeting in Prague Divya, Aviya and Ram were having discussions and prepared some preliminary numerics and calculations to facilitate the meeting in Prague. After the meeting in Prague, a summary was distributed between all four collaborators and it is now clear what remains to do in order to finish the project and write the relevant paper. |
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| **Description of the STSM main achievements and planned follow-up activities**  During the visit we manage to summarize the up-to-date status of the project. This was essentially, since it is a four-person collaborative project. The research topics concern several fundamental questions about the nature of preferred orientation vertex conditions. These questions are closely related with the objectives of the WG4 research plan, mainly to task 3 of WG4 which concerns with spectral geometry and the connection to dynamical properties on graphs. Pavel Exner together with collaborators is studying these vertex conditions in the last few years.  The visit was very useful as it allowed to make some progress in this project, synchronize the work process and get a clear idea regarding what remains to do to prepare the relevant preprint. It might be that this is already enough for our group to achieve publication. Otherwise, we might try to have a follow-up activity (either a designated meeting, or meet in a conference) in order to make further progress. |

1. This report is submitted by the grantee to the Action MC for approval and for claiming payment of the awarded grant. The Grant Awarding Coordinator coordinates the evaluation of this report on behalf of the Action MC and instructs the GH for payment of the Grant. [↑](#footnote-ref-1)