Prof. Nejmeddine Jaidane
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# Workplan

Within the framework of the collaboration between the Laboratory of Atomic, Molecular Spectroscopy and Applications (LSAMA), University of Tunis El Manar, Tunisia and the Laboratory of Multiscale Modelling and Simulation (MSME), University of Paris-Est Marne-la-Vallée, France, supported by the COST Short Term Scientific Mission program, we aim to do the calculation of the theoretical treatment of the nuclear motion problem for aluminium bearing oxides compounds of astrophysical relevance using the most efficient ab-intio methods, CCSD(T)/ aV(X+d)Z (x=T,Q and 5) and CCSD(T)-F12/VXZ-F12 Q) (x=D,T and Q).

During the internship period, Mr. Bilel Mehnen will carry out the following work program:
- Determination of the different stable structures of aluminium bearing oxides compounds.
- Study the stabilities of these molecules.
- Calculation of the potential energy surfaces.
- Determination of the spectroscopic constants.
- Calculation of the rovibronic spectra of investigated molecules.

Yours sincerely,

Le directeur du Laboratoire L.S.A.M.A
Prof. Nejmeddine JAIDANE

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