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# Lemma on the space of displacements of the odometric model

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*Abstract*—The odometric model give the place to a space of displacements. We have been resolving to simulate, integrate, explain and then to validate the odometric model. The model of resolution is to be programmed in the Maple language, with the help of a solver for Maple 2021.

*Index Terms*—Odometry; Vehicle location and navigation systems; Mobile positioning systems; Trajectory; Discretization of a model; Control of a vehicle.

#### I INTRODUCTION

As one introduction, I could say that the odometric model is well known now and that everything is done for the space of displacements of a model of automation to be improved with the odometric model.

#### II LEMMA

There is the convergence of the odometric model with the absolute convergence until an hypergeometric function with a gamma, and moreover all this space of displacements has a structure K-completed of a group, with the neutral element that is the rotation of an angle of 2\*Pi modulo Pi.

#### III PROOF OF THE LEMMA

On the one hand the space of displacements is a subgroup of the space of the transformations of the plane implies that each element of the space of displacements is the limit of a series of elements of this space of displacements.

And on the other hand, for each element of this space of displacements there exists a bounded sequence for any displacement, Cf. the work of Guillaume Artus on the slavings to be given to the computer to make a robot go from one position to another in the plane [1], in the space of the displacements such that the limit belongs to this space of the displacements of the plane implies that the space of the displacements is complete in the body of the transformations of the plane.

#### IV EXPLANATIONS ABOUT THE LEMMA

The lemma has been fully proved so that now we can access the data from the first series with the linearized functions in the matrix of state and measured, given by the chinese team in a paper published by the IEEE editor, I have done the primary effort to the state matrix of functions, nevertheless they did the last one to ensure the compatibility of the odometric model with the mathematical background of mine and also to get the values with the vehicle [2].

#### **V**CONCLUSION

As one conclusion, I could say that the odometric model is well known now and that everything is done for the commands of a model of automation to be validated with the odometric model [3].

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