ANNONCE DE SOUTENANCE

Monsieur **FERDJAOUI Mostapha**

Soutiendra sa thèse de Doctorat de Troisième Cycle en Physique

Spécialité : « Physique théorique ».

Intitulée : «**Etude non relativiste de certains potentiels diatomiques déformés par l'intégrale de chemin**»

D a t e : le Lundi 03 Février 2025 à 16 H0O.

L i e u : A la salle de conférences sise au Campus Chaab Erssas - Université Constantine 1 Frères Mentouri.

Devant le jury :

	Nom et prénoms	Grade	Etablissement d'appartenance
Président	ZOUZOU Sami Ryad	Professeur	Université Constantine 1 Frères Mentouri
Directrice de thèse	**KHODJA Asma**	**M.C.A**	**Université Ziane Achour - Djelfa**
Examinateurs	BACHKHAZNADJI Abdelmalik	Professeur	Université Constantine 1 Frères Mentouri
	REDOUANE-SALAH Assma	Professeure	Université Mohamed Boudiaf – M'sila -
	BENAMIRA Farid	Professeur	Université Constantine 1 Frères Mentouri
	BENBOUZID Yazid	**M.C.A**	Université Ziane Achour - Djelfa

A b s t r a c t :

In this work, we treated a set of quantum systems under some diatomic potentials. These potentials are an exponential type used in various branches of theoretical physics, particularly atomic physics, molecular physics and quantum chemistry. In the framework of non-relativistic quantum mechanics, we first reviewed the problem of the molecule moving in Hua potential which has been studied within an approximation scheme.We noticed the effect or influence of the deformation q on the energy spectrum and wave functions. For q between 1 and -1, the Green's function associated with l waves is constructed with the help of a spatial transformation. Secondly, we studied a diatomic molecule in a six-parameter potential.

It is a generalized form of many exponential potentials. The study was divided into studying the bound states of the molecule and the scattering states, where our goal is to find the expressions of spectrum energy and the wave functions. Thirdly, we studied particle's bound and scattering states in multiparameter potential, we also found an expression for the diffusion function and the phase shifts. To test the correctness of our , we considered some special cases of this potential.