

# PARAMETRIZATION OF THE SECOND-ORDER REDUCED DENSITY MATRIX IN REDUCED DENSITY MATRIX FUNCTIONAL THEORY

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#### **INTRODUCTION**

Why even bother with Reduced Density Matrix (RDM)? RDM vs wavefunction

#### **INTRODUCTION**

Objectives of the work

## **RDMs in RDMFT**

Definition of RDMs

## **RDMs in RDMFT**

Foundation of RDMFT

## LS & BBCn approximations

LS approximation

## LS & BBCn approximations

BBC approximation

#### A POSSIBLE NEW PARAMETRIZATION

Our 2-RDM

#### A POSSIBLE NEW PARAMETRIZATION

Optimization of the 2-RDM

#### **TESTING ENVIRONMENT**

Energy computation

#### **TESTING ENVIRONMENT**

Minkowski distances

### **RESULTS**

Energy results & errors

#### **RESULTS**

Minkowski distance results

## **CONCLUSIONS & FUTURE PERSPECTIVES**

Conclusions