



LMAP

LABORATORY OF
MATHEMATICS AND
APPLIED PHYSICS
المدرسة العليا للأستاذة - بوسنادة
ENS-BOUSAADA

Ministry of Higher Education and Scientific Research
Higher Normal School of Bou Saada
Department of Science Physics and Laboratory
of Mathematics and Applied Physics



CERTIFICATE OF PARTICIPATION

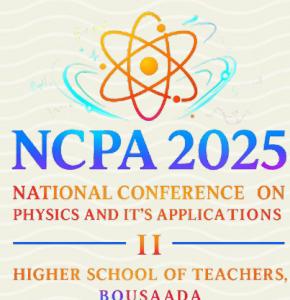
The Organizing Committee of the Second National Conference on Physics and its Applications
(20 Novembre 2025) is pleased to award this certificate to :

Djamel ALLALI

in recognition of his active participation in the conference with an Oral presentation entitled: “
Structural, elastic and thermodynamic characteristics of trigonal-type Zintl phases $X\text{Zn}_2\text{Sb}_2$ ($X = \text{Ca}$ or Sr) under hydrostatic pressure: Prospects for Advanced Materials in High-Pressure and Ther-
moelectric Devices ”

Co-author: Fares ZERARGA, Abdelhak BEDJAOUI,
Elhadj BENREZGUA,

Missoum RADJAI, Rabie AMARI,
Saber SAAD ESSAOUD, Ammar BOUKHARI



NCPA 2025

NATIONAL CONFERENCE ON
PHYSICS AND IT'S APPLICATIONS

II

HIGHER SCHOOL OF TEACHERS,
BOUSAADA

