



LMAP
LABORATORY OF
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المدرسة العليا للأساتذة - بوسعادة
ENS-BOUSAADA

Ministry of Higher Education and Scientific Research
Higher Normal School of Bou Saada
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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 XZn_2Sb_2 ($X =$
Ca or Sr) under hydrostatic pressure: Prospects for Advanced Materials in High-Pressure and Ther-
moelectric Devices “

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