

## A Study of $^{16}\text{O} + ^{24}\text{Mg}$ Reaction Using a Coupled Channel Approach

A.A. Farra

Physics Department, Faculty of Science, AL-Azhar University, Gaza, Palestine  
(Received: 2002-4-12; Revised: 2002-12-27)

Abstract: Different interpretations are introduced to describe the uprising oscillatory structures of  $^{16}\text{O} + ^{24}\text{Mg}$  reaction. The gross resonant structures to the ground- and first-excited states have been studied successfully in terms of both the DWBA and coupled channel calculations. The DWBA results introduce a reasonable description of the angular distributions and excitation function data. The coupled channel calculations provide a better agreement with the experimental forward and backward angle data than the DWBA calculations.

PACS: 25.70.-Z. 24.10.Eq

Key words:  $^{24}\text{Mg}(^{16}\text{O}, ^{16}\text{O})^{24}\text{Mg}$  and  $^{24}\text{Mg}(^{16}\text{O}, ^{12}\text{C})^{28}\text{Si}$  reactions, DWBA calculations, coupled channel calculations

[\[Full text: PDF\]](#)

Close