



# ASSESSMENT OF NUCLEAR REACTION CROSS SECTIONS FOR THE PRODUCTION OF $^{89}\text{Sr}$ VIA NEUTRON AND CHARGED PARTICLE INDUCED REACTIONS.

## INTRODUCTION

❖ Nuclear medicine is a medical specialty that is used to diagnose and treat diseases in a safe and painless way.

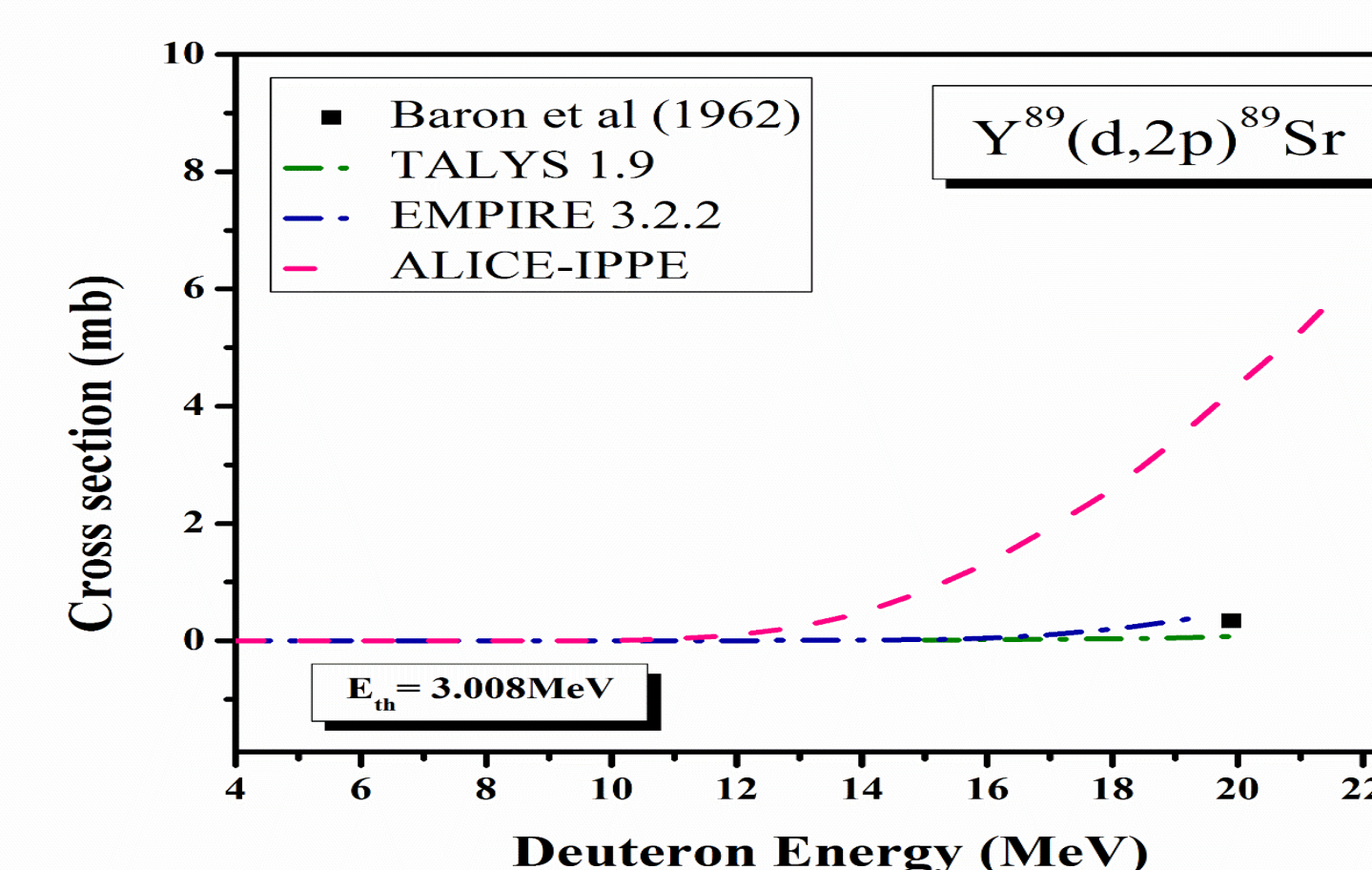
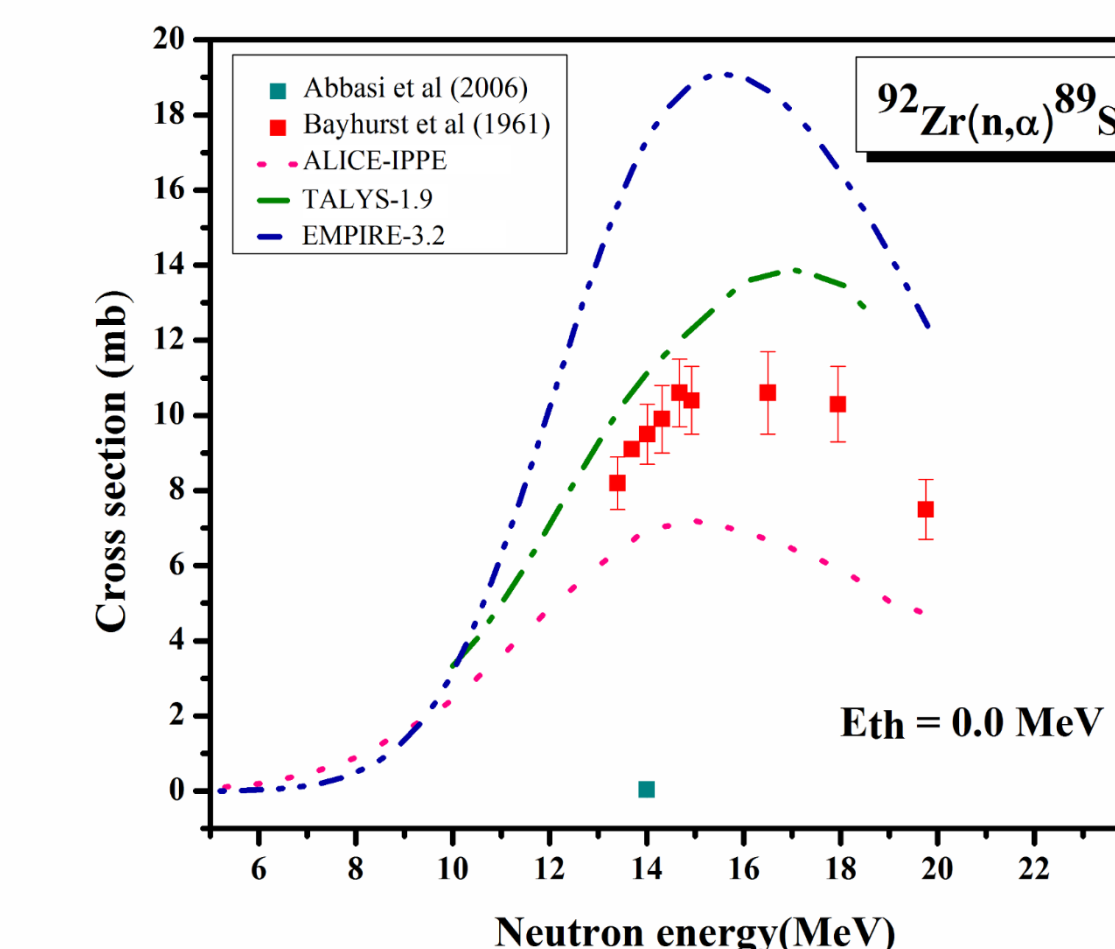
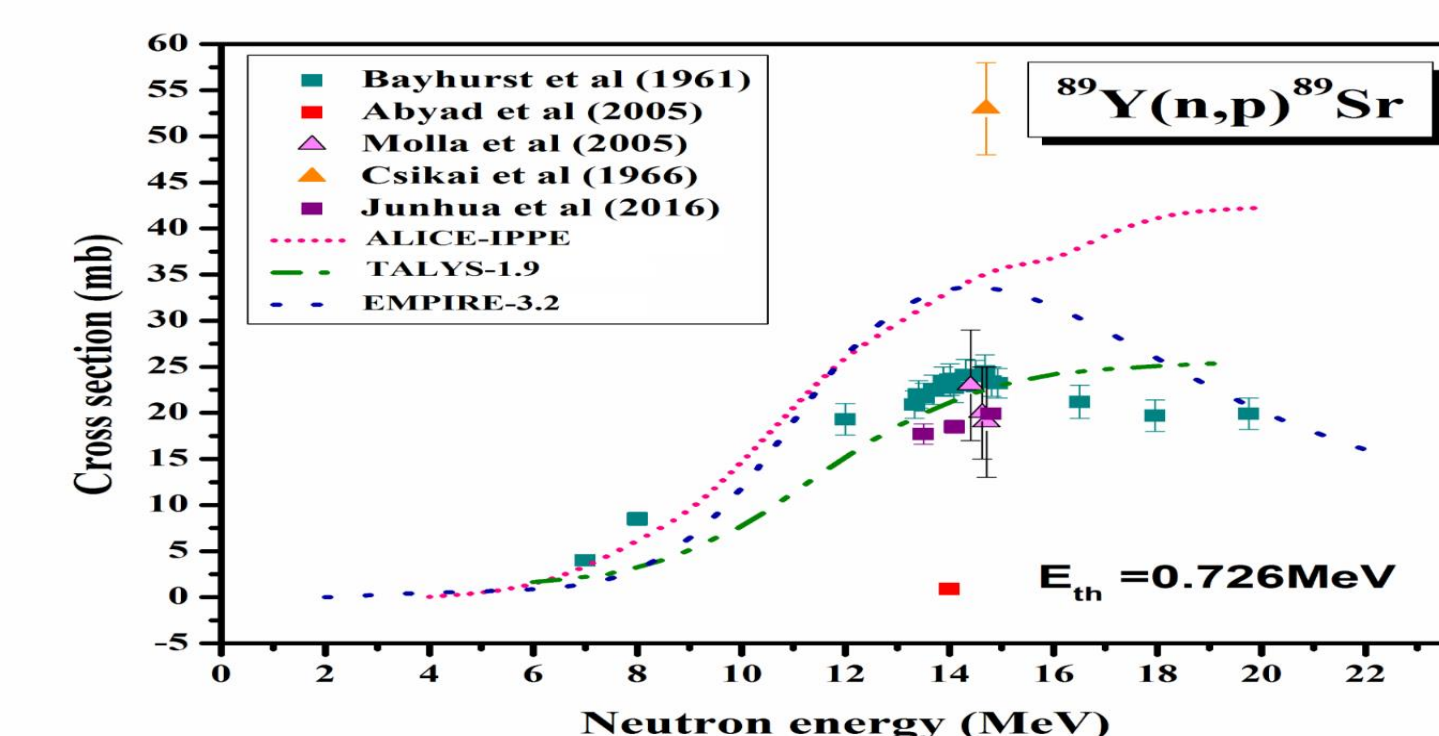
## STRONTIUM-89

$^{89}\text{Sr}$  is an important artificial radioisotope used in treatment of bone cancer. In circumstances where cancer patients have widespread and painful bony metastases

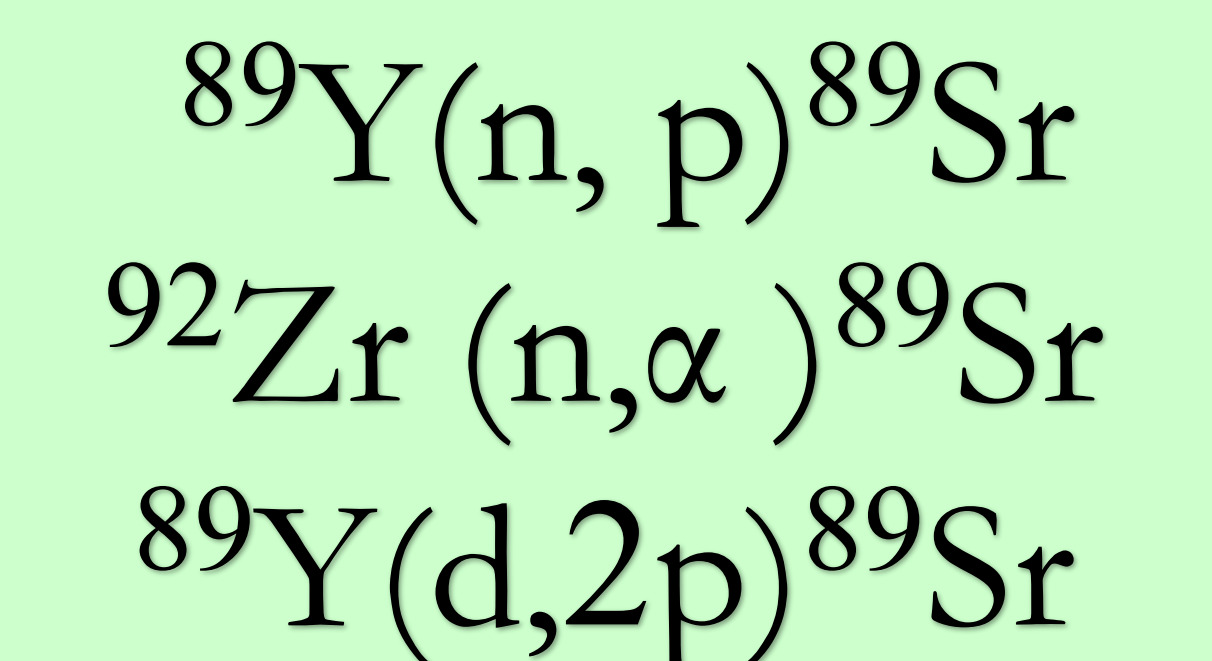
## RESEARCH METHODOLOGY

- ❖ Compilation of all available experimental data with complete details from all sources.
- ❖ The nuclear model calculation done employing the code  
ALICE-IPPE  
TALYS 1.9  
EMPIRE 3.2.2
- ❖ Comparison of experimental data with theoretical results to obtain most suitable production route.

## RESULTS AND DISCUSSION



## PRODUCTION ROUTES



## CONCLUSION

❖ The analysis of above reactions on the basis of recommended data the best reaction route is  $^{89}\text{Y}(n, p)^{89}\text{Sr}$ .