Contribution ID: **59** Type: **not specified**

# Activation cross section measurements of the 92,94,100Mo(a,n)95,97,103Ru reactions and optical potentials for modelling explosive nucleosynthesis scenarios

*Tuesday, 4 September 2018 15:58 (16 minutes)*

Alpha-nucleus optical model potentials (OMP) are widely used in nuclear reaction network calculations aiming at the study of the gamma-process [1] and the weak r-process [2]. Considerable theoretical and experimental effort has been devoted in recent years to improve the knowledge of the OMP's in order to give correct predictions for the cross sections and reaction rates [3,4] (and references therein).
Recently, (a,n) cross section measurements on 92,94,100Mo are in progress at ATOMKI using the activation technique. The resulted cross sections have been used to test the predictions of global optical potential parameterizations used in modelling the gamma-process and the weak r-process. The experimental details and preliminary results will be presented.

[1] T. Rauscher et al., Reports on Progress in Physics 76 6201 (2013).
[2] Y. Qian et al., Phys. Rep. 442 237 (2007).
[3] T. Szücs et al., Phys. Lett. B 776 396 (2018).
[4] G. G. Kiss et al., Phys. Rev. C 88, 045804 (2013).

## Selected session

Nuclear astrophysics

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**Session Classification:** Nuclear Astrophysics