## Nuclear Astrophysics at the Canfranc Underground Laboratory, 2nd CUNA Workshop



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## Astrophysical production of 146Sm isotope

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## Summary

A possible p-process chronometer could be the 146Sm nucleus and this issue is directly related to the uncertainties of 146Sm/144Sm production ratio observed in many meteorites and planetary bodies. One of the components of production ratios are the cross sections of type (alpha,gamma) and (alpha,n) which are leading to the formation of 146Sm and 144Sm isotopes. The (alpha,gamma) and (alpha,n) cross sections from the threshold up to 15-20 MeV's were obtained. The contributions to the cross sections of direct and preequilibrium processes as well as of the compound processes were analyzed. The cross section values obtained in the present evaluations gave new data on alpha-potentials and nuclear level densities. They were compared with experimental data from the literature.

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