



## Alpha decay and proton emission studies using the in-flight separators MARA and RITU

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For three decades Nuclear Spectroscopy Group (NSG) has performed spectroscopic studies utilizing the in-flight separators RITU [1] and MARA [2]. The gas-filled recoil separator RITU has been in operation since 1994 and the activity with the vacuum-mode double focusing MARA started 2016. To perform spectroscopic studies the separators, need various efficient detector setups alongside. Continuous development work is needed to stay in the front line of research. A big fraction of the research program has been the alpha particle decay and proton emission studies. Some recent highlights from these studies will be presented.

### References

- [1] J. Sarén, J. Uusitalo, M. Leino, and J. Sorri, Nucl. Instr. Meth. Phys. Res. A **654**, 508 (2011)
- [2] J. Uusitalo, J. Sarén, J. Partanen, and J. Hilton, Acta Physica Polonica B **50**, 319 (2019)