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## Improvement of the analytical workflow for prompt-gamma activation analysis

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The analysis workflow of Prompt gamma activation analysis at the BNC's PGAA and NIPS-NORMA facilities, at the MLZ FRM II PGAA station, and many other centers worldwide relied on the use of the Hypermet-PC gamma spectrometry software and the ProSpeRo concentration calculation Excel macro. This evaluation procedure was established in the late nineties and was compatible with the computing environment and data acquisition hardware of that era. The procedure has been validated for several matrices and provided excellent results, as well as uncertainty budgets for about 25 000 PGAA spectra over the years.

However, that peak fitting procedure required up to an hour of an experienced analyst, and the count rate of the detector had to be limited to avoid the distortion of the peak shapes. To overcome this limitation, and establish a common basis for the analytical practice, a Budapest-Garching collaboration was formed.

At BNC, computer-controlled sample changers and neutron collimators were installed, and new, state-of-the-art ORTEC DSPEC 502A gamma spectrometers were put in place.

The much-improved data acquisition had to be matched with a capable and more automated evaluation procedure. The 2022.2 version of the Hyperlab software package was developed. Finally, the ProSpeRo concentration calculation utility was made compatible with Hyperlab's efficiency and peak list format.

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