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## LGC: A new revised version

A new version of LGC (Logiciel Général de Compensation) has been developed over the last few years. A completely different functional model and an improved stochastic model have been implemented, and the software has effectively been rewritten.

New observation types have been developed to respond to new requirements such as: unlevelled stations making polar measurements; more flexibility when processing offset observations (lines and planes introduced); and processing camera sensors (BCAM). For a new accelerator line monitoring system a way to define assemblies of objects has also been implemented.

The stochastic model has also been modified to allow a better breakdown and parametrization of the instrument and observation errors; and a better error propagation by means of weighted unknown parameters (coordinates and transformation parameters).

Special care has been taken testing the program. Unit and functionality tests have been added to assure future development, and an in depth comparison with the previous version has been made.

Furthermore, the calculation structure has also been designed to allow new processing modules, such as a pre-processing model to calculate initial coordinate values, to be added more easily.

This paper will give an overview of the new program.

## Summary

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