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GLANCE Traceability - Web System for Equipment Traceability and Radiation Monitoring for the ATLAS

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During the operation, maintenance, and dismantling periods of the ATLAS Experiment, the traceability of all detector equipment must be guaranteed for logistic and safety matters. The running of the Large Hadron Collider will expose the ATLAS detector to radiation. Therefore, CERN shall follow specific regulation from French and Swiss authorities for equipment removal, transport, repair, and disposal. GLANCE Traceability, implemented in C++ and Java/Java3D, has been developed to fulfill the requirements. The system registers and associates each equipment part to either a functional position in the detector or a zone outside the underground area through a 3D graphical user interface. Radiation control of the equipment is performed using a radiation monitor connected to the system: the local background gets stored and the threshold is automatically calculated. The system classifies the equipment as non radioactive if its radiation dose does not exceed that limit value. History for both location traceability and radiation measurements is ensured, as well as simultaneous management of multiples equipment. The software is fully operational, being used by the Radiation Protection Experts of ATLAS since the first beam of the LHC. Initially developed for the ATLAS detector, the flexibility of the system has allowed its adaptation for the LHCb detector.

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