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Application of muography to the industrial sector

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Muography can be utilized as a Non-Destructive Testing (NDT) technique to perform preventive maintenance of industrial equipment, quality control of production processes and risk assessment in the context of the heavy industry. The great penetration power of muons in matter makes this technique interesting to inspect large and dense industrial structures such as cauldrons, furnaces and pipes. At the same time, muography does not require to stop the production process allowing to decouple this kind of maintenance from the technical stops of the factories. This kind of application simplifies also the muon imaging algorithms since only small deviations with respect to a very well known nominal geometry are needed, allowing to solve the problem with parameter inference solutions. This talk will review and summarize the recent progress of the company Muon Systems on this topic ranging from detector considerations, reconstruction algorithms and new applications.

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