Contribution ID: **61** Type: **Poster Session**

# CMS RPC Condition Data Automation

*Tuesday 20 February 2018 11:20 (20 minutes)*

To increase the potential of fast withdrawal of RPC condition data and to eliminate the necessity of constantly decreasing manpower to run various tools, a new RPC data automation utility is being developed. Its goal is to rearrange the RPC detector currents, originally stored asynchronously in the CMS_RPC_PVSS_COND schema on cms_omds_lb database, into a new synchronous format in the CMS_RPC_COND schema on the same database. The new format is designed to ease all RPC current related data analysis. Data tagging is being realized to include into a single binary flag information from external database schemas such as CMS Magnetic Field and LHC Instantaneous Luminosity presence. This makes it trivial to disentangle CRUZET, CRAFT and COLLISIONS RPC detector currents. In addition, the automation utility is able to identify blocks of data with particular importance such as HV channel OFFSETS, HV CONDITIONING periods when the voltages are slowly ramped, RAMP UP and RAMP DOWN periods that require further smoothening before being recorded into the final RPCCURRENTS table. Finally, the utility includes packages for specific current related data analysis such as RPC integrated charge, RPC Currents vs LHC Luminosity, RPC Current Decay after Beam Dump, RPC Current Evolution in time, Dynamically Define the RPC detector Operation mode (Off, Single-gap, Double-gap) and automatic analysis of the RPC HV Conditioning data. The initial idea to develop a tool to deal with RPC Currents can expand to automation of other condition data such as RPC rates, efficiency, occupancy, cluster size etc.

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**Session Classification:** Poster Session