

ON-LINE MODELING OF THE FERMILAB ACCELERATORS

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Access through the Fermilab Control System to On-Line Models (OLMs) of the Fermilab accelerators has been implemented. These models run on fast Unix workstations, communicating with the slower VMS-based controls consoles via a Sybase database and TCP/IP. These models provide scientists and operators in the control room with relevant beam-physics data on the accelerators at Fermilab. Settings of real devices may be used as inputs to the models, and readings from beam diagnostics may be compared with model predictions. This paper describes the techniques in and the progress and use of these OLMs at Fermilab. The client side (VMS) and the server side (Unix) are both implemented in object-oriented C++. The class hierarchy and design will be presented.