

Abstract Submitted  
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**Proposed STAR time of flight readout electronics and DAQ<sup>1</sup>**

JOACHIM SCHAMBACH, The University of Texas at Austin, STAR TOF COLLABORATION — A novel Time-of-Flight (TOF) system is a proposed addition to the STAR detector currently installed at RHIC. The system is based on the new technology of the Multi-gap Resistive Plate Chamber (MRPC), and consists of approximately 23,000 channels of detectors distributed over 120 trays. Each TOF tray consists of 192 detector channels and three different types of electronic circuit cards, called TINO, TDIG, and TCPU, listed in order of the data flow. Every thirty trays connect to a THUB card that transmits the data over a fiber to a PCI receiver in a PC which is part of STAR DAQ. The TINO contains the analog front end electronics. The output of TINO is passed to the TDIG, where the data are digitized (using the CERN HPTDC ASIC). The TCPU formats the digital detector information. These formatted data are passed to THUB, which buffers the data and transmits it over an optical fiber to a PC in the STAR DAQ room in response to Level-2 trigger commands. The architecture of this readout chain and DAQ will be described, and first results from prototypes of the component boards will be discussed.

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