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The UA2 100 Mhz Flash-ADC electronics.

UA2 Collaboration (Speaker E. IACOPINI)

We report on the characteristics of the 100 Mhz Flash-ADC (FADC) electronics used in the 1985 UA2 runs.

The system was implemented in FASTBUS and was used to record the pulses from the two jet chambers of the UA2 central detector, for a total of 288 wires.

Pulses are suitably shaped to fit within the time width of 160 ns, corresponding to the minimum number of 16 FADC samples that the system is able to manage.

A customarized FASTBUS/REMUS interface was built, for speeding-up data acquisition and to allow both the programming and the testing of the system.

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IDENTIFICATION OF THE TRACE IMPURITIES RESPONSIBLE FOR LASER INDUCED IONISATION IN PROPORTIONAL COUNTERS

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The simulation of charged particle tracks by pulsed UV lasers is now used extensively in the calibration of multiwire drift chambers. The identity of the trace quantities of low ionisation potential impurities responsible for the laser induced ionisation has caused much discussion.

Using two-photon ionisation spectroscopy, one of the major sources of ionisation has already been identified to be phenol, a chemical used extensively in the manufacture of plastics and resins.

Even after extensive baking and pumping of the proportional counter and gas filling system used in these experiments, laser induced ionisation still remains although at greatly reduced level. Further laser wavelength scans have shown that a major source of the remaining ionisation is likely to be another aromatic molecule possibly toluene or one of the group of di (methyl, ethyl, butyl, octyl) phthalate.