# Proposed Profile Monitor Designs for the Advanced Hydrodynamic Facility (AHF)

J. Douglas Gilpatrick, James F. O'Hara
Los Alamos National Laboratory, MS H817, Los Alamos, NM 87545

## Abstract

The AHF consists of a LINAC, a booster ring, a 50 GeV Synchrotron and an elaborate set of beam-lines for simultaneously delivering a string of 24 proton bunches from 12 different directions to a chamber in which an explosion is in progress. This paper will discuss beam profile instrumentation being considered for the beam-lines and the synchrotron. In the beam-lines most profiling devises will probably be harps but some fluorescent screen/camera systems may be used. For the Synchrotron RGIPM's may be used for observing individual bunches. The MCP usually placed in the vacuum for such devices might be replaced by a scintillator viewed by a lens plus multianode PMT. In order to observe individual bunches, it may be necessary to increase the local vacuum pressure using a gas jet, molecular beam or a gas puff. Another option may be to view gas fluorescence with the same optical arrangement as used for the RGIPM. A carbon wire moving with velocities of 1 to 5 m/s is being considered as an intercepting device to observe stored beams consisting of one or two bunches. A quadrupole moment measuring system for determining transverse emittance is being investigated.