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RD of Radiation-Hard Scintillators and WLS Fibers EMRAH TIRAS, JAMES WETZEL , BURAK BILKI, SULEYMAN DURGUT , YASAR ONEL, University of Iowa, DAVID WINN, Fairfield University — Radiation resistant and high light-yield scintillators are in more need than ever at particle physics experiments. In this regard, several polyethylene-based and quartz-based scintillating materials and WLS fibers have been studied. Radiation resistance of plastic scintillators such as PEN, PET, SiX and Eljen samples and WLS fibers has been studied over time after they are exposed to 1.4 and 14 MRad total radiation by 137Cs gamma source. The light-yield and timing measurements of the plastic scintillators as well as coated quartz plates have been studied in beam test at Fermilab Test Beam Facility (FTBF). Here, we discuss the recent developments and the results of beam tests and laboratory measurements.

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