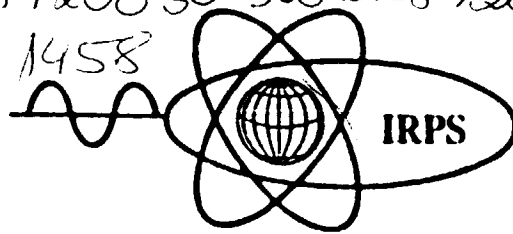


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**Plastic Scintillator Detector Used as Water Radiation
Monitor in a Swimming-Pool Research 2MW Reactor.
Correlation Analysis Between Detector Results and
Personal Dosimetry**

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Plastic scintillator is a good solution in order to be used as a radiation detector when the water is the radioisotopic medium. It can detect easily alpha, beta and gamma radiation provided from a water source. According to these assertives a multi radiation detector was designed in order to be used as a monitor. The device was installed in the Brazilian swimming-pool research reactor working at a 2 MW power. The plastic scintillator probe ($\phi=2"$, $h=4"$) was coupled to a bialkaline phototube and packaged in a dark reservoir shielded with 3 cm thick lead. The water flow in the reservoir was maintained with a water pump. The internal dosimetry of the reactor operator staff was evaluated from whole-body measurements. The external dosimetry was determined from personal photographic dosimeters.