



Innovator In Spectroscopy Equipment



Radiation Measurement and detection Systems



SPECTROMETER



SPECTROMETER



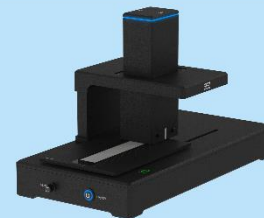
SPECTROMETER



DOSIMETERS



MEDICAL



Counters, Dosimeters and Spectrometers

www.cfp.co.ir



Document

The Necessity of Radiation Protection

Radioactivity is a natural phenomenon and there are natural sources of radiation in the environment.

If we know the radiation and the way of protection against it, we can use many beneficial applications, ranging from power generation to uses in medicine, industry and agriculture without any concern.

Also, if we have appropriate equipment and instruments to measure and detect it, we will not be surprised by unexpected events.

The preparation of exact and appropriate instruments can help to monitor, detect, control and manage the event before occurrence and better exposing with less damage.

The radiation risks to workers and the public and to the environment that can be lowered in case of intentional or unintentional incidents and accidents, as well as nuclear disaster and probable nuclear attack if we are ready for them.

Radiation risks may transcend national borders from one country to another. So, international cooperation serves to promote and enhance safety globally by improving capabilities to control hazards, to prevent accidents, to respond to emergencies and to mitigate any harmful consequences.

Activities such as the medical uses of radiation, the operation of nuclear installations, the production, transport and use of radioactive material, and the management of radioactive waste must therefore be performed by considering the radiation protection criteria.

International Atomic Energy agency (IAEA) recommended criteria and standards for

radiation measurement (dose and spectrum of alpha, beta, gamma) with the aim of safety. All of these measurements should be performed using correct selection of radiation measurement systems.

So, only radiation measurement and detection instruments can be used to ensure the radiation safety and security.

It is obvious that various environment with kind of radiation and different levels as well as the type of area (controlled or uncontrolled) can use various equipment to have better monitoring and controlling the radiation.

Some fields that needed radiation protection

- *Public*
 - Radiation should be monitored in the whole country (soil, water, air) to measure any abnormality in radiation level of the environment.
 - Protecting the public health.
 - Identify the contaminated radioisotope for further actions.
- *Safety and security*
 - Controlling the trafficking of illicit radioactive material in the country and also in the entrance and exit.
 - Controlling the border for trafficking of pedestrian, vehicle, car and also container of materials (in airports, seaport, railways)
 - Monitoring and controlling the radioactivity levels in strategic centers.
 - Controlling the entrance and exit of important and strategic centers for avoiding entering the nuclear sources.
 - Detecting and identifying the level of radioactivity danger in any occurred accident to control and manage it.

- Protecting the important people by controlling food, water, as well as the residence and accommodation.
- Identify the contaminated radioisotope for further actions.
- *Medical centers*
 - Measuring the dose of radiopharmaceutical.
 - Monitoring the radioactivity of the environment.
 - Radiation protection of patients and medical group.
 - Identify the radiopharmaceutical properties for the needed actions.
- *Factory using radioactive sources for any measurement*
 - Measuring the dose of environment.
 - Monitoring the radioactivity of the environment.
 - Radiation protection of public and workers.
 - Identify the spectrum of radioisotopes for the needed actions.
- *Research and educational centers*
 - Monitoring and measurement of radioactivity during using the nuclear sources for the health of workers, as well as safety of the environment for non-radiation workers.
 - Controlling the dose and level of activity in the controlled or uncontrolled area.
 - Identify the radioisotopes based on the spectroscopy for the needed actions.

Radiation measurement and detection equipment

In all required measurement systems, due to the importance of measuring the type of radiation (alpha-beta-gamma), the energy range (from radiation background up to the considered energies), the range of dose and dose rate, the need for radiation detection,

identification, measurement and the ability to record needed information (energy and spectrum) should be provided.

According to the experiences of the company and the manufactured products, all the systems stated in different categories, in individual or in module, in the form of remote control or close management, in a fixed or portable and based on different standards set by the user, can be built and even personalized.

CFP company has various products in this field, including alpha, beta and gamma dosimeters, as well as gamma spectrometers in individual and modular as described below.

Some of our products are:

- Dosimeter (PD2318-PD2319)
 - Individual
 - Environment
- Gamma spectrometer (Spect2113-Analysis)
- Radiation Portal Monitoring (RPM2220-RPM2210)
 - Personnel/Car/Vehicle Radiation Portal Monitoring
- Radiopharmaceutical analysis (RTLC2149)
- Food and water analysis for alpha-beta-gamma (LGS2515-ABS2218)
- Under Water Gamma Spectroscopy (UWGRA2116)





Innovator in Spectroscopy Equipment



Control Farayand Pasargad, No1, 33 salon, 48rd St, Ehsani rad St,
Engelab St, Ahmadabad Mostoufi Rd, Azadegan Highway, P.O Box
3313193714, Tehran 3313193685, I.R. Iran



+98 (21) 57416072

w w w . c f p . c o . i r