

Use of radiation

Radiation is now used in various fields and is closely involved in our lives.

Use in medicine

X-ray imaging is a typical radiation usage in medicine. X-rays are also used to project cross-sections of human bodies and to check the activity of organs. Radiation, at higher dosages, can damage cells, and can therefore be used for cancer treatment. For instance, breast cancer may be cured without surgery, by radiation. Sterilization of medical equipment is another application.

- Cancer treatment
- Sterilization of medical equipment
- Cornea treatment



Use in agriculture

Selective breeding of farm products is possible by applying radiation. Rice, wheat, soy, and corn have been improved in the past, using this method. Irradiation and release of artificially reared male pests is used to eliminate pests, as female pests that mate with the irradiated males lay eggs that do not hatch. Pests can therefore be reduced in a way which minimizes the use of pesticides. Other applications include the sterilization and storage of food.



- Selective breeding
- Pest control
- Germination prevention
- Maturity control



Use in industry

Applying radiation to plastics and rubber changes their molecular structure, and can improve their strength and heat resistance. This property is used in the manufacture of automobile dashboards and tires, as well as in the electric wiring in microwave ovens, and TVs that need high heat resistance. Other applications include technology to decompose harmful chemical substances in exhaust gas and wastewater, airport carry-on baggage inspection, nondestructive inspection of parts and products, and thickness measurement.

- Manufacturing heat-shrinkable tubing
- Strengthening paint coatings
- Manufacturing magnetic media

