



One of the means to measure doses due to external exposure is to wear a personal dosimeter on the body. Personal dosimeters can measure cumulative amounts of radiation exposure for a certain period of time, and provide dose rate readings.

Another means is to measure radiation dose rates in a workplace with a survey meter to estimate the level of exposure supposing that a person stays in that place. Since α -particles and β -particles from outside the body do not reach into the body (p.22 of Vol. 1, "Penetrating Power and Range of Effects on the Human Body"), γ -rays are measured to obtain doses due to external exposure. Many recent instruments provide readings in microsieverts per hour ($\mu\text{Sv/h}$), so such readings are multiplied by the time a person spent in a certain location to roughly calculate his/her external exposure dose. However, these measurements must be made with an instrument, such as a NaI (TI) scintillation survey meter, that has proper performance and is well calibrated.

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