



GammaSpectacular

B E E R E S E A R C H P T Y L T D



- Personal dosimeter
- SIPM Technology
- CsI crystal 8 x 8 x 50 mm
- Up to 10,000 counts per second
- Bluetooth
- Rechargeable
- Free open source software
- USB Charging cable
- Carry case

ATOM-FAST

X-RAY - GAMMA - BETA DETECTOR



Atom Fast

A tiny radiation detector and dosimeter with 8*8*50 mm CsI crystal

Atom Fast is made for radiation monitoring of land, buildings, vehicles, construction materials, etc. You can use Atom-Fast for gamma and X-ray measurements in physical experiments and for educational purposes. Atom Fast contains a sensitive radiation detector (CsI scintillation crystal and silicon photomultiplier) and all electronics required to power and get readings from the sensor, Bluetooth 4.0 wireless interface and lithium-ion battery. Smartphones or tablet PC's are used to process information gathered from the scintillation detector and to show readings on screen. Applications to run Atom Fast can be downloaded for free from the Apple AppStore (for iOS) or Google Play (for Android).

There are 3 user-programmable dose rate and accumulated dose thresholds with different alarm signals (sound and/or vibration). The accumulated dose is constantly stored, even while Atom Fast is in standalone mode and can be read after establishing wireless communication.

A single smartphone or tablet PC app can operate several Atom-Fasts at once. Charging of built-in lithium-ion battery should be performed using the original charging cable connected to a USB port.

Secifications

Types of radiation detected	Gamma, X-ray, Beta
Dose rate measurement range	0,01 uSv/h – 100 uSv/h (1 uR/h – 10 mR/h)
Maximum count rate	10 000 CPS (600 000 CPM) min.
Energies of gamma- and X-rays detected	20 keV - 10 MeV min. (Versions with 8*8*50** mm and 7.5*7.5*100 mm CsI crystal)
Detector sensitivity (Version with 8*8*50 mm CsI crystal)	4700 pulses per uR (130 CPS per uSv/h) typ.
Sensitivity anisotropy, Cs137	30% max. (versions with 8*8*16 mm and 8*8*50 mm CsI crystal)
Energies of beta-radiation detected	500 keV and higher
Accumulated dose measurement range	1 nSv – 1 Sv (0,1 uR – 100 R)
Dose rate accuracy with background gamma spectrum	15% max
Work time after full charge, with dose rate 0,1 uSv/h (10 uR/h) and all sounds OFF under normal environmental conditions	60 days min, 90 days typ. (versions with 8*8*16 mm and 8*8*50 mm CsI crystal) 20 days typ. (version with 7.5*7.5*100 mm CsI crystal)
Built-in Li-ion battery endurance, cycles	300
Line-of-sight wireless communication distance	15 m
Size	120*20*12 mm (4,7**0,78**0,47")
Weight	45 g max (1.6 Oz max), 55 g max (with 7.5*7.5*100 mm CsI crystal)
Environment temperature	-40...+40C
Time to full charge	3 h