

Weak infrared beam of light is enough for identifying cells

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Mitch Leslie wrote an article of infrared method for identifying cells (1). In GPS communications, weak repetitive signals are sent from satellites in order to increase the signal strength at the GPS receivers. The repetitive signals are simply added and accumulated with noises. However, the noises are eliminated by themselves because of the randomness of noises. This method is called a stochastic method (2,3). Therefore, instead of strong infrared beam of light, weak infrared beam of light can be used for identifying cells. The weaker intensity of infrared beam of light, the better and the more gentle for our health. In GPS communications, typical received signal power from a GPS satellite is -127.5 dBm (0.178 fW), while thermal noise floor is -111 dBm.

References:

1. Mitch Leslie, Science 10 Aug 2018: Vol. 361, Issue 6402, pp. 541
2. Y. Takefuji, <http://science.sciencemag.org/content/357/6354/849/tab-e-letters>
3. <http://science.sciencemag.org/content/360/6386/243/tab-e-letters>