Safety and arming method for Fuzes based on geomagnetic field signal

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Abstract: Based on analyzing the method of geomagnetism turns-counting and the mathematical model for testing distance, tow kinds of information are put forward as the second environment prompting of the redundant safety, one is the geomagnetism field information when the projectile exiting the muzzle, and the second is the spin signal of the projectile in the geomagnetic field. "Threshold level + time window" is used as the judgment criterion, and this can distinguish the shot environment and non-shot environment. The method of geomagnetism turns-counting for testing distance is used to realize the distance design of the muzzle safety, it is easy to solve the problem of insufficient muzzle safety distance, and it can distinguish the normal shot environment and improper shot environment. The geomagnetism curve is tested by dynamic shooting, and it is testified that the schemes is feasible. © 2010 IEEE.

Author Keywords: Fuzes; Magnetic sensor; Muzzle safety destince; Redundant safety

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