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(71) Applicant *(for all designated States except US)*: **TASER INTERNATIONAL, INC.** [US/US]; 7860 East McClain Dr., Suite 2, Scottsdale, AZ 85260-1627 (US).

(72) Inventors: **SMITH, Patrick, W.**; 4724 E. White Drive, Paradise Valley, AZ 85253 (US). **NERHEIM, Magne, H.**; 7033 E. Joan De Arc, Scottsdale, AZ 85254 (US).

(74) Agent: **BACHAND, William, R.**; Taser International, Inc., Legal Dept., Suite 2, 7860 E. Mclaim Drive, Scottsdale, AZ 85260-1627 (US).

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(54) Title: SYSTEMS AND METHODS FOR IMMOBILIZATION

	STIMULUS SIGNAL				
DESCRIPTION	PATH MANAGEMENT		TARGET MANAGEMENT		
STAGE	PATH FORMATION	PATH TESTING	STRIKE	HOLD	REST
SHAPE					
DURATION	10–100 μSEC	10 μSEC	50 μSEC	50 μSEC	2 SEC
AMPLITUDE	A=50KV POWER = 0.75–3.0 JOULES	A=450KV	A=SPV B@100 μC	A=SPV B@100 μC	0
REPETITION RATE	N/A	1 TO 3 PULSES/MIN.	20/SEC	10/SEC	0
TYPICAL DURATION OF STAGE	0.0005 SEC	0.001 SEC	2 SEC	28 SEC	2 SEC

(57) Abstract: Systems and methods for immobilizing a target such as a human or animal with a stimulus signal coupled to the target via electrodes provide the stimulus signal in accordance with a strike stage, a hold stage, and a rest stage. Systems include a launch device and separate projectile, where the projectile includes a battery, a waveform generator, and electrodes. The strike stage and hold stage may include pulses at a pulse repetition rate, for example, from 10 to 20 pulses per second, each pulse delivering a predetermined amount of charge, for example, about 100 microcoulombs at less than about 500 volts peak. The hold stage may continue immobilization at a lesser expenditure of energy compared to the strike stage. Because the strike stage and hold stage may immobilize by interfering with skeletal muscle control by the target's nervous system, a rest stage may allow the target to take a breath.

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