

Title: The use of EMF (electromagnetic field) blocking garments reduces the ability of animals to detect a human subject.

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Abstract: Animals have an uncanny ability to detect the proximity of humans, this study explores the hypothesis that animals sense EMF (electromagnetic field) emissions produced by the human body. The behavior of three species of animals (Cattle, Horses, and Mule Deer) was observed while interacting with a human subject both with and without EMF (electromagnetic field) blocking garments. The results of this study find that the use of EMF blocking garments allow humans to approach 69 to 75 percent closer to Mule Deer than without their use. The results also show that the use of EMF blocking garments is more effective when the human subject remains motionless. Overall the study finds that using EMF blocking garments makes a human significantly less-detectable by animals.

Introduction: I was presented with the Hypothesis that animals (specifically wild game animals) have the ability to detect some kind of electromagnetic Field (EMF) or Extremely Low Frequency (ELF) energy, that is produced by the Human Body and that by blocking or attenuating this energy a person would be less detectable by wild animals. Having briefly studied the effects of High Power Transmission Lines on Animals at Oregon State University I was intrigued by the Hypothesis and initiated the following research. By breaking the hypothesis down to its root elements I found several questions I must answer. First what is EMF? Second how is EMF measured? Third can EMF be blocked? Fourth do humans emit some kind of measurable EMF energy? Fifth do animals sense or react to any type of non directed EMF signal or energy.

EMF has a broad definition; to fully understand it one must include electromagnetic field, electromagnetic radiation, and electromagnetic spectrum in the definition.

The electromagnetic field is a physical field produced by electrically charged objects. It affects the behavior of charged objects in the vicinity of the field. The electromagnetic field extends indefinitely throughout space and describes the electromagnetic interaction. It is one of the four fundamental forces of nature (Wikipedia; NASA).

Electromagnetic radiation (sometimes abbreviated EMR) takes the form of self-propagating waves in a vacuum or in matter. EM radiation has an electric and magnetic field component which oscillates in phase perpendicular to each other and to the direction of energy propagation. Electromagnetic radiation is classified into types according to the frequency of the wave. EMR carries energy and momentum, which may be imparted when it interacts with matter (Wikipedia; NASA).

The electromagnetic (EM) spectrum is the range of all possible electromagnetic radiation frequencies. The electromagnetic spectrum extends from below the frequencies used for modern radio communication (at the long-wavelength end) through gamma radiation (at the short-wavelength end),

covering wavelengths from thousands of kilometers down to a fraction the size of an atom (Wikipedia; NASA).

EMF is mainly characterized by its frequency and its strength. The frequency of EMF is measured in the unit hertz, which means "cycles per second". The strength of low frequency EMF (such as that produced by humans) is measured in Milligauss or Microtesla (one Microtesla equals ten Milligauss) (how to measure EMF, Eriksen Andrew, MS).

The most recognized method for blocking EMF is the Faraday Cage. A Faraday cage is a metallic enclosure that prevents the entry or escape of an electromagnetic field, Faraday cages can be built of solid metal shielding, metallic mesh, or other material that contain conductive fibers.

The human body produces conducts, and stores electricity, and therefore EMF. The most common recognition of human produced electricity is through EKG, and EEG. The fact that humans conduct electricity is proven by simple devices such as an electric fence. A good example of humans storing electricity is building up a "static electric" charge and sharing it with a friend. EKG (electrocardiogram) is a test that measures the electrical activity of the heartbeat. With each beat, an electrical impulse (or wave) travels through the heart (American heart association). EEG (electroencephalogram) is a test that measures and records the electrical activity of your brain (webMD).

I found two studies that show evidence of electromagnetic radiation affecting animal behavior. W. Löscher and G. Käs (Authors) Conspicuous behavioral abnormalities in a dairy cow herd near a TV and Radio transmitting antenna. *Prakt. Tierarzt* 79: 5, 437-444 (1998) [*Practical Veterinary Surgeon* 79: 5, 437-444 (1998)]. Löscher and Käs found that a cow with abnormal behavior brought to a stable in a different area resulted in normalization of the cow within five days. The symptoms returned, however, when the cow was brought back to the stable in close proximity to the antenna in question. In view of the previously known effects of electromagnetic fields it may be possible that the observed abnormalities are related to the electromagnetic field exposure.

The Department of Pharmacology, Silesian Academy of Medicine Katowice, Poland; *Bioelectromagnetics* 1993; 14(4): 287-97. Found that rats exposed to EMF (ELF) exhibited an increase or decrease in irritability depending on field strength and duration. They concluded that irritability of rats may be used as a simple behavioral indicant of mammalian sensitivity to magnetic fields.

This study specifically addresses the question: Do animals sense and react to human produced EMF, and does blocking human produced EMF make a person less detectable by animals?

Methods: My first area of study is how much EMF does a human produce, and can it be blocked? To explore this I set up the following experiment.

Experiment 1: Human EMF

Using a TriField Natural EM Meter, I located an area of low static EMF levels (the static level stayed between .25 and .33 microteslas or 2.5 to 3.3 milligauss). The experiment requires two people. First the EM meter is set up on a non-conductive platform at chest height of the experiment subject. Second the EM meter is calibrated to read a subject passing in front of it. Third an observation post is set up 15 feet behind and 10 feet higher than the meter, the person observing and recording the meter readings will use binoculars to insure accurate readings and no interference with the meters readings. Fourth a subject not wearing EMF blocking material will pass by the meter at a distance of no greater than 6 inches, but not touching the meter or the non conductive platform at a slow walk this will be repeated 10 times at no less than a 30 second interval, the observer will record the highest reading on the meter for each pass. The subject will then put on EMF blocking garments and repeat the experiment (the EMF blocking garments include undergarment pants that cover the body from the ankles to the waist, an undergarment shirt that covers from the neck to the wrists and over laps the pants, and a head net that goes under a hat and hangs down to overlap the shirt).

Experiment 2: animal behavior

In order to test animal's ability to sense and therefore react to human produced EMF, I set up the following experiments. Observe animal behavior while interacting with a human subject both with and without the use of EMF blocking material. For this experiment I chose the following animals, Cattle, Horses, and wild Mule Deer. These animals were chosen for, availability to the researcher, past history observing their behavior and availability of research on their behavior. In order to keep this study simple and repeatable I limited human interaction with the animals to one human subject at a time. All measurements are done in either Feet or Yards and are completed by physical measurement, and or use of a laser range finder, distance estimates are used when measurement during the experiment would affect results. Numbers of animals observed are exact where possible and estimated when an exact count is impossible. Efforts are made to mask means of detection by the animals other than EMF energy, specifically Camouflage clothing is used along with natural cover to disguise the human subject, no scent suppression is used other than that available in the natural environment, experiments are designed to use wind direction to help mask the subjects scent, experiments are designed to minimize animals prior knowledge of the location of the subject, movement and noise during the experiment are limited to sounds and motion required to complete the experiment, all data from the experiments will be cataloged mentally by the subject and recorded at the end of the experiment session, or cataloged and recorded physically by a third party using long range observation. Experiments A-Ff will be the control experiments and will be conducted without EMF blocking material.

The experiments conducted with the EMF blocking material are labeled A2-Ff2. The EMF blocking material includes undergarment pants that cover the body from the ankles to the waist, an undergarment shirt that covers from the neck to the wrists and over laps the pants, and a head net that goes under a hat and hangs down to overlap the shirt. This will be worn along with the same outer garments used in the control experiments.

Experiment A: Cattle

Cattle are observed while moving through a fixed choke point from rest to feed and water without pressure. This experiment must use an established travel route that the cattle have had exposure to for at least 5 consecutive days. The choke point should be between 12 and 16 feet wide (for my experiment I used a 14 foot gateway). The human subject is positioned on the side of the opening at which the cattle are at rest 12 feet from the opening on a parallel line to the opening seated on the ground and using natural cover (leaning back against the fence) See Diagram A1. The Human subject will take up their observation point no later than one half hour before cattle are normally given access to their feed source, and only if no cattle are present at the choke point, or are near or observing the choke point. The human subject will observe the cattle and mentally catalog data from their observation point minimizing movement, noise, eye contact or any other interaction with the cattle Observation of the cattle behavior will continue for one half hour after the first Bovine approaches the choke point opening.

Experiment B: Cattle

The reaction of cattle is observed while a human subject moves directly at them in an open field starting from a distance of no less than 150 yards the human subject will move slowly towards the cattle stopping and taking a yardage reading with a range finder when directly observed by cattle or cattle start to move away from the human subject. The human subject will try to approach as close as possible to the cattle without them running off from the subject.

Experiment C: Horse

Horses are observed while moving from rest to feed without pressure through an alleyway (see diagram C1) The human subject is positioned on the side of and halfway down a 14 ft wide 200 ft long alleyway that connects a horse paddock to a pasture. These horses go down this particular alleyway twice a day on their way out to the pasture there is no pressure from a herdsman, on the way in from the pasture herding pressure is used. For this experiment the horses were observed while going out to pasture without herding pressure. The human subject will take up the observation post 10 min before the horses are to be turned out and will be standing up against a fence for safety reasons (preliminary studies show that the horses were often running 3 wide by the time they reached the observation point). The human subject will observe the horses and mentally catalog data from their observation point minimizing movement, noise, eye contact or any other interaction with the horses. Observation will continue until the horses move to a point 50 feet beyond the observation point.

Experiment D: Horse

The reaction of horses is observed while a human subject moves directly at them in an open field starting from a distance of no less than 150 yards the human subject will move slowly towards the horses stopping and taking a yardage reading with a range finder when directly observed by the horse or the horses start to move away from the human subject. The human subject will try to approach as close as possible to the horses without them running off from the subject.

Experiment E: Wild Mule Deer

Mule Deer are observed while moving from their bed grounds (a state of rest) to feed and water. This experiment uses a known travel route of deer between a ridge where they rest, a pond where they water and a field they have been actively grazing (see diagram E1). Preliminary studies show that small groups of deer (2-5 at a time) have been using this travel every afternoon for at least 3 days before the study. The human subject will position themselves 12 to 20 feet off to the side of the established deer trail, at a location that gives the subject a good view of the deer trail for at least 50 yards in the direction the deer will be coming from. The subject will use the best natural cover available and be in the seated position (to minimize movement do to fatigue). The human subject will mentally catalogue data while deer are present and record data and make measurements with the range finder only when deer are not present.

Experiment F: Wild Mule Deer

The reactions of Mule Deer are observed while a human subject moves directly at them in an open field. Starting from a distance of no less than 150 yards the human subject will move slowly towards the deer stopping and taking a yardage reading with a range finder when directly observed by the deer or the deer start to move away from the human subject. The human subject will try to approach as close as possible to the deer without them running off from the subject.

Experiment Ff: Mule Deer

The reactions of Mule Deer are observed while being stalked by a human subject. The subject will only move or take readings when the deer have their heads down and are feeding, not observing the human subject. The human subject will try to approach as close to the deer as possible up until they leave the field.

Results:

Experiment 1: How much EMF does a human produce, and can it be blocked?

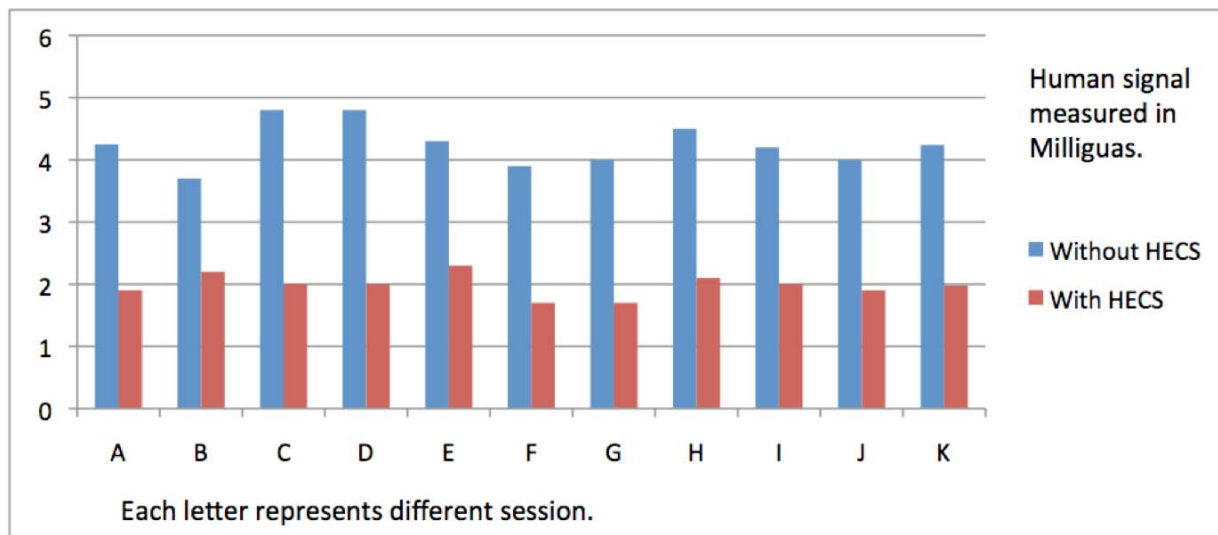
All readings are expressed in microteslas, to convert readings to milligauss multiply the reading by ten.

Column A represents the use of EMF blocking material (W= readings taken with EMF blocking material, WO= readings taken without EMF blocking material).

Columns B-K represents individual test results (these have no direct correlation to each other they are simply raw readings).

The Column labeled AVG is the average reading for the test session.

A	B	C	D	E	F	G	H	I	J	K	AVG
WO	4.2	3.7	4.8	4.8	4.3	3.9	4	4.5	4.2	4	4.24
W	1.9	2.2	2	2	2.3	1.7	1.7	2.1	2	1.9	1.98



Results of note: The data table in experiment 1 shows that the use of EMF blocking material reduces the EM field strength of the human body by 53 percent on average. Further analysis of the data shows a potential minimum of 38 percent and a maximum of 65 percent. Overall results the human body does produce measurable amounts of EMF, and human produced EMF can be blocked using the proper material.

Experiment A: Cattle are observed by a human subject (without EMF blocking material) moving through a fixed choke point from rest to feed and water.

52 head of weaned calves used in this experiment

Column A represents the experiment session.

Column B represents the number of cattle.

Column C represents the distance at which the cattle first observe and react to human subject (ND= no detection).

Column D represents the reaction of the cattle to the human subject (S= stop and stare, MA= move around, NR= no reaction, R= retreat, A= approach). Reactions are listed in order of how they happened.

Column E represents the distance from human subject when the cattle start to move to the choke point.

Column F represents how the cattle move through the choke point (W= walk, F= fast walk, R= run).

A	B	C	D	E	F
1	7	30 yds	S,MA,A	20 yds	F,R
1	4	37 yds	S,A,MA	29 yds	R
1	11	32 yds	S,R,A,MA	21 yds	R
2	15	35 yds	S,R,MA,A	15 yds	F,R
2	6	29 yds	S,A,MA	18 yd	F
2	23	40 yds	S,A,S,MA	22 yds	R
3	10	25 yds	S,R,MA,A	11 yds	F,R
3	13	30 yds	S,A,S	20 yds	F
3	8	27 yds	S,MA,A	15 yds	R
3	2	20 yds	S,A	12 yds	R
AVG	9.9	30.5 yds	NA	18.3 yds	NA

Results of note: All groups of calves, if not every single calf in each session detected and had some reaction to the test subject. Groups of calves spent between 30 seconds and 3 minutes observing and reacting to the subject. Not all of the cattle observed in this experiment passed through the choke point within the 30 minute sessions.

Experiment A2: Cattle are observed by a human subject (using EMF blocking material) moving through a fixed choke point from rest to feed and water.

52 head of weaned calves used in this experiment

Column A represents the experiment session.

Column B represents the number of cattle.

Column C represents the distance at which the cattle first observe and react to human subject (ND= no detection).

Column D represents the reaction of the cattle to the human subject (S= stop and stare, MA= move around, NR= no reaction, R= retreat, A= approach). Reactions are listed in order of how they happened.

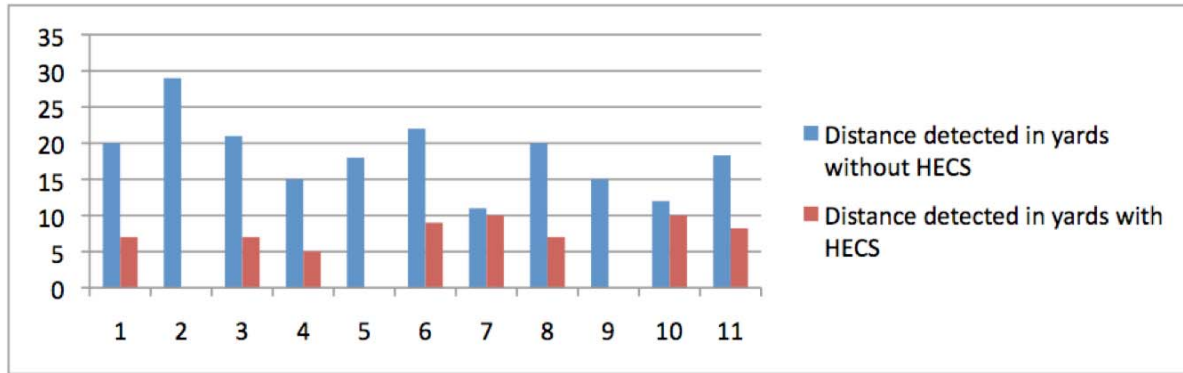
Column E represents the distance from human subject when the cattle start to move to the choke point.

Column F represents how the cattle move through the choke point (W= walk, F= fast walk, R= run).

A	B	C	D	E	F
1	14	10 yds	S,A	7yds	W,F
1	8	ND	NR	NA	W
1	22	7 yds	S,NR	7 yds	W
1	8	12 yds	S,A,A,A	5 yds	W,F
2	12	ND	NR	NA	F
2	16	12 yds	S,A	9 yds	W
2	6	10 yds	S,NR	10 yds	W
2	10	7 yds	NR	7 yds	W
2	8	ND	NR	NA	F,R
3	7	10 yds	S,NR	10 yds	W
3	16	7 yds	NR	7 yds	W
3	4	ND	NR	NA	F
3	25	12 yds	NR	12 yds	W
AVG	12	9.67 yds	NA	8.22 yds	NA

Results of note: Not all groups of calves or individual calves in the groups detected or had a reaction to the test subject. 36 percent of the groups of calves in this experiment did not detect the test subject. 64 percent of the groups of cattle had no reaction to the subject. 27 percent of the groups of calves that detected the subject had no reaction other than looking at the subject. Calves that detected the subject spent no more than 45 seconds reacting to the subject.

Experiment A-A2 comparative results: On average the calves in A2 came 68 percent closer to the subject before they detected the subject than the calves in A. On average the calves in A2 passed through the choke point 55 percent closer to the subject than the calves in A.



Experiment B: The reaction of cattle is observed while a human subject moves directly at them in an open field (without EMF blocking material).

Column A represents the experiment session.

Column B is the starting distance from the animals.

Column C is the distance at which the animals first detect the human subject.

Column D is the distance at which the animals first react to the human subject.

Column E is the distance at which the animals actively react to the human subject.

Column F is the closest distance between the human subject and the animals.

The row marked AVG is the average distance for the experiment.

A	B	C	D	E	F
1	225 yds	200 yds	125 yds	3 yds	3 yds
2	180 yds	160 yds	130 yds	3 yds	3 yds
3	200 yds	165 yds	110 yds	3 yds	3 yds
AVG	201.67yds	175 yds	121.67yds	3 yds	3 yds

Results of note: The cattle in this experiment did not run away from the test subject, but they would move away and around the subject if the subject got within 9-10 feet of them. Once the subject entered the group of cattle most cattle that were farther than 15 yards from the subject went on feeding and did not react to the subject.

Experiment B2: The reaction of cattle is observed while a human subject moves directly at them in an open field (using EMF blocking material).

Column A represents the experiment session.

Column B is the starting distance from the animals.

Column C is the distance at which the animals first detect the human subject.

Column D is the distance at which the animals first react to the human subject.

Column E is the distance at which the animals actively react to the human subject.

Column F is the closest distance between the human subject and the animals.

The row marked AVG is the average distance for the experiment.

A	B	C	D	E	F
1	185 yds	150 yds	100 yds	40 yds	20 yds
2	215 yds	170 yds	105 yds	55 yds	22 yds
3	175 yds	140 yds	90 yds	30 yds	15 yds
AVG	191.67yds	153.33yds	98.33yds	41.67yds	19 yds

Results of note: Cattle actively avoided the test subject when the subject approached within 42 yards on average. All cattle in group reacted to the test subject when subject entered the group of cattle.

Experiment B-B2 comparative results: Even though the subject in B2 was able to approach closer to the cattle without being detected, the subject got closer to the cattle without them actively reacting in experiment B.

Experiment C: Horses are observed while moving from rest to feed without pressure through an alleyway (without EMF blocking material). 14 horses were observed in this experiment

Session one: Horses enter the alleyway as a group jogging; the lead horse starts to slow down 30 yards from the subject. All horses slow to a stop and look at the subject at 20 yards, several horses walk toward the subject, all horses follow and stop at 10 yards. Three horses move to the far side of the alleyway, passing by the subject and continuing down the alleyway, once the three horses start running the rest of the horses move past the subject and down the alleyway.

Session two: The horses enter the alleyway running three horses wide, at 35 yards the lead horse moves to the far side of the alley, the rest of the horses slow and move behind the lead horse. All of the horses run by the subject on the far side of the alleyway.

Session three: The horses enter the alleyway in a group, at a jog. All of the horses stay in a group until they are 10 feet from the subject. Four of the horses slow and stop by the subject; most of the horses go by the subject at a jog, several horses stop after passing the subject, one of these horses' snorts and runs off, the rest of the horses follow running off.

Results of note: All horses in all three sessions both detected and reacted to the test subject. During session three the four horses that approach the subject react to the subject for approximately 30 seconds before passing the subject.

Experiment C2: Horses are observed while moving from rest to feed without pressure through an alleyway (using EMF blocking material). 14 horses were observed in this experiment

Session one: The horses enter the alleyway, running in a long group. The horses keep running the length of the alleyway passing 5 feet from the subject.

Session two: The horses enter the alleyway in two groups jogging. The horses move the length of the alleyway at a jog, passing the subject at 5-6 feet.

Session three: The horses enter the alleyway running in a tight group four horses wide. The horses run the length of the alley way, one horse runs within 3 feet of the subject.

Results of note: None of the horses in these sessions showed any detection of or reaction to the subject. None of these sessions lasted longer than 25 seconds. In session three the subject almost got run into by a paint horse.

Experiment D: The reaction of horses is observed while a human subject moves directly at them in an open field (without EMF blocking material).

Column A represents the experiment session.

Column B is the starting distance from the animals.

Column C is the distance at which the animals first detect the human subject.

Column D is the distance at which the animals first react to the human subject.

Column E is the distance at which the animals actively react to the human subject.

Column F is the closest distance between the human subject and the animals.

The row marked AVG is the average distance for the experiment.

A	B	C	D	E	F
1	165 yds	140 yds	120 yds	90 yds	15 yds
2	180 yds	165 yds	135 yds	95 yds	15 yds
3	155 yds	135 yds	115 yds	80 yds	10 yds
AVG	166.67yds	146.67yds	123.33yds	88.33yds	13.33yds

Results of note: The standard reaction of the horses was to group up when approached by the subject.

The horses did not continually keep track of the subjects' progress towards them. Horses appeared calm as subject approached close to the group.

Experiment D2: The reaction of horses is observed while a human subject moves directly at them in an open field (using EMF blocking material).

Column A represents the experiment session.

Column B is the starting distance from the animals.

Column C is the distance at which the animals first detect the human subject.

Column D is the distance at which the animals first react to the human subject.

Column E is the distance at which the animals actively react to the human subject.

Column F is the closest distance between the human subject and the animals.

The row marked AVG is the average distance for the experiment.

A	B	C	D	E	F
1	170 yds	130 yds	125 yds	80 yds	20 yds
2	185 yds	125 yds	115 yds	75 yds	17 yds
3	150 yds	110 yds	100 yds	75 yds	11 yds
AVG	168.33yds	121.67yds	113.33yds	76.67yds	16 yds

Results of note: Most of the horses continually kept track of the subjects' progress towards them. The standard reaction of the horses was to group up when approached by the subject, however in session one, two horses moved between the group and the subject. Horses seemed alarmed when subject approached close to the group of horses.

Experiment D-D2 comparative results: The largest change in results between D, and D2 is not represented in the data, but by the horses' attitude, without EMF blocking material they are calm, with the use of it they appeared alarmed by the subjects' presence.

Experiment E: Mule Deer are observed while moving from their bed grounds (a state of rest) to feed and water (without EMF blocking material).

Column A represents experiment session.

Column B represents the number of deer observed.

Column C represents the distance at which the deer are first observed.

Column D represents the distance at which the deer first detect the subject (ND= deer never detect subject).

Column E represents the reaction of the deer when they detect the subject (S= stop and stare, A= approach, R= retreat, MA= move around or away from, AL= makes alarm sound or movement, L = look at, NR= no reaction).

Column F represents the speed at which the deer travel after detecting the subject, or the speed at which they pass by the subject (W= walk, F= fast walk, R= run).

Column G represents the closest the deer get to the subject.

A	B	C	D	E	F	G
1	3	85 yds	52 yds	S,MA	F	52 yds
1	1	100 yds	85 yds	MA	F	80 yds
1	4	85 yds	65 yds	S,AL,MA	R	50 yds
1	22 deer observed in field at the close of session					
2	3	70 yds	60 yds	S,MA	F	45 yds

2	5	68 yds	55 yds	S,A,S,AL	F,R	30 yds
2	2	100 yds	70 yds	S,MA,AL	F,R	52 yds
2	4	75 yds	50 yds	S,AL,MA	R	50 yds
2	17 deer observed in field at the close of session					
3	1	50 yds	50 yds	S,A,AL,MA	R	40 yds
3	6	65 yds	47 yds	S,MA,A,AL	R	35 yds
3	25 deer observed in field at the close of session					
AVG	3.22	77.56yds	59.33yds	NA	NA	48.22yds

Results of note: All groups of deer if not all deer individually detected and reacted to the test subject. In 67 percent of the groups of deer, one or more of the deer made an alarm sound or movement upon detecting the subject, 67 percent of the groups also reacted by running from or past the subject. 89 percent of the deer got closer to the subject after the subject spotted the deer. 78 percent of the deer got closer to the subject after they detected the subject.

Experiment E2: Mule Deer are observed while moving from their bed grounds (a state of rest) to feed and water (Using EMF blocking material).

Column A represents experiment session.

Column B represents the number of deer observed.

Column C represents the distance at which the deer are first observed.

Column D represents the distance at which the deer first detect the subject (ND= deer never detect subject).

Column E represents the reaction of the deer when they detect the subject (S= stop and stare, A= approach, R= retreat, MA= move around or away from, AL= makes alarm sound or movement, L = look at, NR= no reaction).

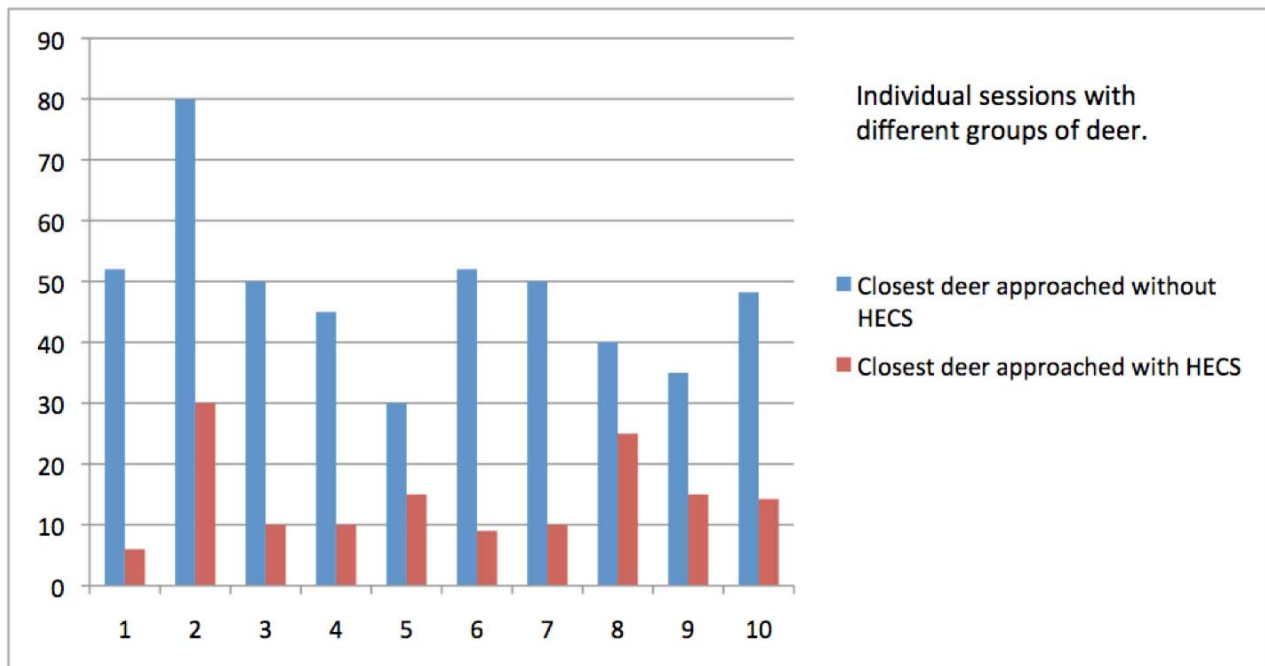
Column F represents the speed at which the deer travel after detecting the subject, or the speed at which they pass by the subject (W= walk, F= fast walk, R= run).

A	B	C	D	E	F	G
1	4	72 yds	6 yds	L,NR	W	6 yds
1	1	100 yds	ND	NR	W	30 yds
1	3	82 yds	10 yds	L,S,NR	W	10 yds
1	6	60 yds	ND	NR	FW	10 yds
1	27 deer observed in field at the close of session					
2	2	90 yds	ND	NR	W	15 yds
2	4	65 yds	9 yds	L,NR	W	9 yds
2	5	75 yds	15 yds	L,A,S,MA	W	10 yds
2	3	85 yds	ND	NR	W	25 yds
2	1	35 yds	ND	NR	W	15 yds
2	31 deer observed in field at the close of session					

3	1	40 yds	12 yds	L	W	12 yds
3	7	90 yds	ND	NR	W	20 yds
3	3	70 yds	13 yds	L	W	13 yds
3	3	50 yds	15 yds	L,A,L	W	10 yds
3	24 deer observed in field at the close of session					
AVG	3.31	70.31yds	11.43yds	NA	NA	14.23yds

Results of note: 46 percent of the groups of deer did not detect the test subject. Only one of the seven groups (14%) of deer that detected the subject moved around or away from the subject. None of the deer that detected the subject moved faster than a walk after detecting the subject. None of the deer made an alarm sound or movement after detecting the subject. 100 percent of the deer got closer to the subject after the subject spotted them. 29 percent of the deer that detected the subject got closer to the subject after they detected the subject.

Experiment E-E2 comparative results: On average the deer that detected the subject in E2 got 81 percent (47.9 yards) closer to the subject before detection than the deer that detected the subject in E. On average the closest distance to the deer in E2 was 14.23 yards, that's 33.99 yards closer than in E. 100 percent of the deer in experiment E avoided the subject by moving away from or around the subject all of those deer did so at a fast walk or run, only 8 percent of the deer in experiment E2 moved away from or around the subject, and those deer did so at a walk.



Experiment F: The reactions of Mule Deer are observed while a human subject moves directly at them in an open field (without EMF blocking material).

Column A represents the experiment session.

Column B is the number of deer in the group being stalked

Column C is the starting distance from the deer.

Column D is the distance at which the deer first detect the human subject.

Column E is the distance at which the deer first react to the human subject.

Column F is the distance at which the deer actively move away from the human subject.

Column G is the closest distance between the human subject and the deer.

The row marked AVG is the average distance for the experiment.

A	B	C	D	E	F	G
1	7	212 yds	212 yds	200 yds	180 yds	180 yds
2	9	185 yds	171 yds	165 yds	160 yds	160 yds
3	5	163 yds	163 yds	163yds	200 yds	163 yds
AVG	7	186.67yds	182 yds	176 yds	180 yds	167.67yds

Results of note: In session three the deer observed the human subject entering the field, and immediately started feeding and moving away from the subject, when the subject moved toward the deer, the deer ran out of the field after the subject had moved around 30 yards towards them. In all three sessions the deer detected the subject within the first 14 yards of the subject moving toward the deer. Once the subject was detected by the deer at least one deer always kept track of the subject, even after running away.

Experiment F2: The reactions of Mule Deer are observed while a human subject moves directly at them in an open field (using EMF blocking material).

Column A represents the experiment session.

Column B is the number of deer in the group being stalked

Column C is the starting distance from the deer.

Column D is the distance at which the deer first detect the human subject.

Column E is the distance at which the deer first react to the human subject.

Column F is the distance at which the deer actively move away from the human subject.

Column G is the closest distance between the human subject and the deer.

The row marked AVG is the average distance for the experiment.

A	B	C	D	E	F	G
1	5	185 yds	160 yds	125 yds	71 yds	60 yds
2	8	230 yds	190 yds	130 yds	75 yds	50 yds
3	8	160 yds	160 yds	105 yds	70 yds	47 yds
AVG	7	191.67yds	170 yds	120 yds	72 yds	52.33yds

Results of note: In two of the three sessions the subject progressed 25 yards or further toward the deer without being detected upon entering the field. In all three sessions the deer did not continuously keep track of the subject after they first detected the subject. Individual deer in all three sessions allowed the subject to get closer to them after they had already actively moved away from the subject.

Experiment F-F2 comparative results: The subject progressed over 115 yards closer to the deer on average in experiment D2 as compared to D. The subject progressed 56 yards closer to the deer on average before the deer reacted to the subject in D2 as compared to D.

Experiment Ff: The reactions of Mule Deer are observed while being stalked by a human subject. The subject will only move or take readings when the deer have their heads down and are feeding, not observing the human subject (without EMF blocking material).

Column A represents the experiment session.

Column B is the number of deer in the group being stalked

Column C is the starting distance from the deer.

Column D is the distance at which the deer first detect the human subject.

Column E is the distance at which the deer first react to the human subject.

Column F is the distance at which the deer actively move away from the human subject.

Column G is the closest distance between the human subject and the deer.

The row marked AVG is the average distance for the experiment.

A	B	C	D	E	F	G
1	10	200 yds	155 yds	125 yds	120 yds	120 yds
2	6	170 yds	160 yds	155 yds	133 yds	133 yds
3	7	240 yds	185 yds	150 yds	145 yds	120 yds
AVG	7.67	203.33yds	166.67yds	143.33yds	132.67yds	124.33yds

Results of note: In all three sessions the subject progressed 10 yards or farther into the field before being detected. In two of the three sessions the subject got no closer to the deer after they had started to actively move away from the subject. In all three sessions the subject progressed 33 yards or farther toward the deer before they started to actively move away.

Experiment Ff2: The reactions of Mule Deer are observed while being stalked by a human subject. The subject will only move or take readings when the deer have their heads down and are feeding, not observing the human subject (using EMF blocking material).

Column A represents the experiment session.

Column B is the number of deer in the group being stalked

Column C is the starting distance from the deer.

Column D is the distance at which the deer first detect the human subject.

Column E is the distance at which the deer first react to the human subject.

Column F is the distance at which the deer actively move away from the human subject.

Column G is the closest distance between the human subject and the deer.

The row marked AVG is the average distance for the experiment.

A	B	C	D	E	F	G
1	9	220 yds	105 yds	85 yds	55 yds	40 yds
2	11	160 yds	20 yds	20 yds	35 yds	20 yds
3	5	180 yds	140 yds	90 yds	60 yds	35 yds
AVG	8.33	186.67yds	88.33yds	65 yds	50 yds	31.67yds

Results of note: In session two the subject progressed to within 50 yards of the deer when they start to feed toward the subject, several horses in the field approach the subject to within 30 yards and snort at subject; the deer continue to feed toward the subject even though the wind direction has changed and is blowing from the subject directly at the deer, the deer continue to feed directly at the subject and two deer close to 20 yards, the horses then stamp and blow and the deer look at the subject and start to feed away, the deer finally actively react to the subject at 35 yards. In two of the three sessions the subject progresses more than 100 yards toward the deer before being detected. In all three sessions subject approaches deer to within 40 yards.

Experiment Ff-Ff2 comparative results: The subject progressed over 92 yards closer to the deer on average in experiment Ff2 as compared to Ff. The subject progressed over 78 yards closer to the deer on average before the deer reacted to the subject in Ff2 as compared to Ff.

Discussion:

Taking into consideration the results from all of the experiments I reach the following conclusions; humans do produce and emit some level of EMF, that EMF can be reduced by the use of EMF blocking garments. Animals do sense or detect EMF produced by humans, and blocking or reducing EMF emissions makes humans less-detectable by animals. There are several specific examples in the previous experiments that EMF blocking has a profound effect on the ability of deer to detect and recognize humans. First in experiment E2 fifteen mule deer looked at the subject in the experiment, yet still approached the subject to within 10 yards or less (3 deer to 6 yards) and had no reaction to the subject, they did not act alarmed, or run away, they simply walked off. Compare that to experiment E, and the closest a deer got to the subject was 30 yards and that deer both acted alarmed and ran off. In

experiment Ff2 deer feed and walked toward the subject in an open field, looked directly at the subject, watched horses react to the subjects' presence, yet still continued to feed and walk toward the subject eventually coming within 20 yards of the subject. These past two examples have something in common, the subject was not moving, and looking at the data EMF blocking has the most effect on animals when the human subject is not moving. Another area of this study also needs to be discussed, the cattle and horses used in this experiment are "tame" farm animals, they are accustomed to people being around them, and during the course of this experiment the subject became very familiar with the animals. During the control portion of the experiment the horses and cattle acted similar toward the subject as they do to their owners and care takers, however when the subject was wearing the EMF blocking garments, the cattle and especially the horses, acted as if they did not recognize the subject as a human when the subject was walking toward or through them. When the subject was not moving however the cattle and horses rarely detected the presence of the subject. In closing the data generated by this study leads me to believe that EMF blocking makes humans significantly less-detectable by animals.

Abstract:

W. Löscher and G. Käs (Authors) Conspicuous behavioral abnormalities in a dairy cow herd near a TV and Radio transmitting antenna. *Prakt. Tierarzt* 79: 5, 437-444 (1998) [Practical Veterinary Surgeon 79: 5, 437-444 (1998)] Schlütersche GmbH & Co. KG, Verlag und Druckerei [Schlütersche GmbH & Co. KG, Publisher and Printer] ISSN 0032-681 X

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