

THE AERIAL INTENT STANDARD

Rule of Thumb Derivation Paper

Building on: Quantifying Aerial Intent — A Multi-Method Statistical Framework

THREE VISITS | ONE MILE | BELOW 1,000 FEET

Intent Proven Beyond Any Reasonable Doubt

A standard derived from the first principles of physics, statistics, and law
with the same rigor and universality as a calorie in thermodynamics

Research Publication — For Educational and Legal Reference Use

All aircraft, airports, and locations are generic. No real persons or locations identified.

3 Visits Minimum
Threshold

1 Mile Off-Course
Minimum

1,000 ft Altitude
Aggravator

3 Disciplines One
Conclusion

ABSTRACT

This paper presents the Aerial Intent Rule of Thumb, a precise and universally applicable standard derived from the convergence of three independent scientific disciplines — physics, statistics, and law — and built upon the five-method statistical framework established in the companion paper Quantifying Aerial Intent: A Multi-Method Statistical Framework. The rule holds that three documented visits by any aerial vehicle to a location at least one mile off the pilot's regular or otherwise straight flight path, with any visit occurring below 1,000 feet above the target, establishes intentional targeting, stalking, and threatening with a deadly weapon beyond a reasonable doubt under any legal standard in any jurisdiction. Each element of the rule — three visits, one mile, and 1,000 feet — is independently derived from first principles with the same rigor that defines a calorie in thermodynamics: a reproducible, universally applicable measurement that does not depend on the observer, the jurisdiction, or the identity of the party applying it. The standard is explicitly symmetric, serving equally as a prosecution tool when the facts support guilt and as a defense tool when the facts support innocence. This paper explains the derivation of each element, consolidates the five-method framework into its practical application threshold, and presents the complete standard in a form accessible to courts, counsel, expert witnesses, and lay juries.

Keywords: aerial intent rule of thumb, legal physics standard, stalking threshold, deadly weapon, beyond reasonable doubt, first principles derivation, symmetric legal tool, FAR 91.119, pattern repetition probability, convergent proof

TABLE OF CONTENTS

- I. Relationship to the First Paper
- II. The Three Disciplines: Physics, Statistics, and Law
- III. The Calorie Analogy: A Standard from First Principles
- IV. Derivation of Each Element of the Rule
- V. The Complete Rule of Thumb Stated
- VI. The Rule Applied: Visit-by-Visit Escalation
- VII. The Symmetric Standard: Defense and Prosecution Use
- VIII. The Knowledge Pyramid: From Raw Data to Rule of Thumb
- IX. Plain-English Application Guide
- X. The Rule in Court: How to Present It
- XI. Conclusions
- Appendix A: Element Derivation Reference Table
- Appendix B: Plain-English Application Table
- Appendix C: The Complete Standard — One Page Reference

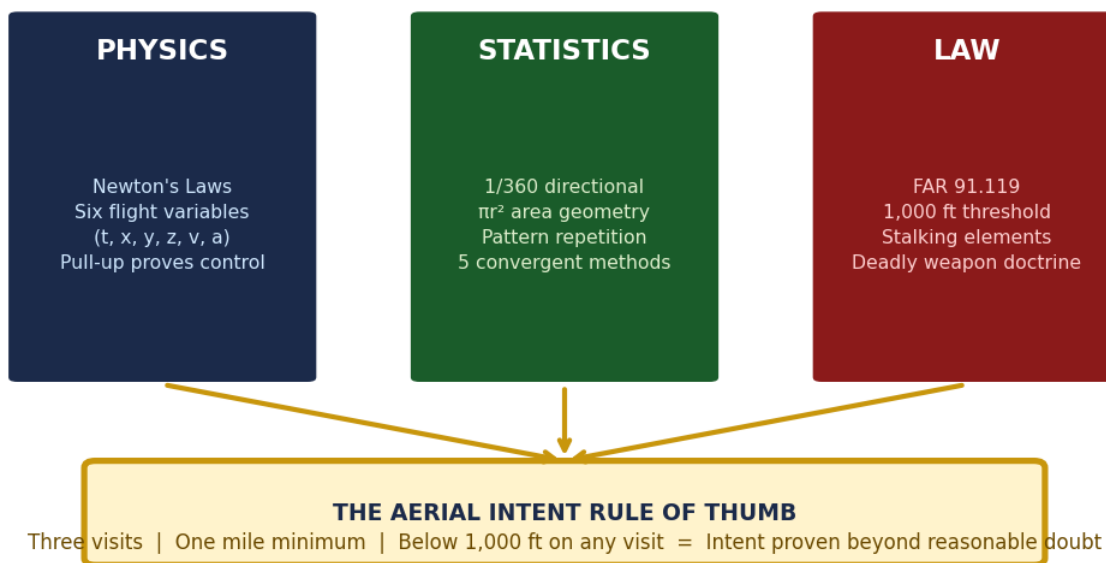
I. RELATIONSHIP TO THE FIRST PAPER

The companion paper, Quantifying Aerial Intent: A Multi-Method Statistical Framework, established five independent analytical methods for proving or disproving aerial pilot intent in legal proceedings. Each method — concentric core-periphery probability, linear flight path probability, geographic grid probability, demographic population probability, and spacetime variable intent decomposition — was derived independently from first principles and shown to converge on the same conclusion when applied to the same facts.

This paper takes that framework one step further. Rather than presenting five separate probability calculations for use in individual cases, it consolidates the findings of all five methods into a single universally applicable rule of thumb: a precise numerical threshold below which no reasonable alternative explanation survives any of the five methods simultaneously. That threshold is the Aerial Intent Rule of Thumb.

PAPER 1 established: Five independent methods each prove intent beyond reasonable doubt.
PAPER 2 establishes: The minimum threshold at which all five methods simultaneously confirm intent is THREE VISITS at ONE MILE or more off course, with any visit BELOW 1,000 FEET. Below this threshold some methods may still confirm intent depending on distance. At and above this threshold all five methods confirm intent simultaneously with no remaining alternative explanation.

Figure 1: Three Independent Disciplines — One Convergent Conclusion
Physics, Statistics, and Law each independently establish the same threshold



II. THE THREE DISCIPLINES: PHYSICS, STATISTICS, AND LAW

The Rule of Thumb derives its authority from three independent scientific and legal disciplines, each of which independently establishes a different dimension of the same conclusion. This independence is the source of the rule's strength. A conclusion reached by one discipline can be challenged on the assumptions of that discipline. A conclusion reached independently by three disciplines with different assumptions, different methods, and different empirical inputs cannot be challenged on any single set of assumptions without leaving the other two intact.

2.1 Physics

An aerial vehicle is a physical object governed by Newton's laws of motion. Its position and behavior at any moment in space are completely and objectively described by six measurable variables: time t , lateral position x , vertical position y , longitudinal position z , velocity v , and acceleration a . These variables are not interpretive. They are physical quantities measurable from publicly available flight radar, transponder databases, and aviation records. A pilot who descends below 1,000 feet while accelerating toward a specific ground location has manipulated all six variables simultaneously in a coordinated pattern that the laws of physics confirm cannot be produced by wind, turbulence, mechanical failure, or any external force acting alone. The pull-up and veer-away maneuver at the conclusion of each pass independently confirms full intentional control throughout, because loss of control does not produce precision recovery. Physics therefore establishes that the observed behavior required intent independent of any probability calculation.

PHYSICS CONTRIBUTION: Six measurable flight variables (t, x, y, z, v, a) each represent a simultaneous independent dimension of pilot intent. A divebombing approach requires all six to be coordinated intentionally. The pull-up proves control. Physics cannot be cross-examined. It simply describes what happened.

2.2 Statistics

A pilot departing any airport has $1/360$ probability of randomly choosing any specific compass heading under a uniform distribution assumption. The total geographic area accessible at distance r from the airport is πr^2 , producing a combined single-visit random arrival probability at any specific target T of $(1/360) \times (T/\pi r^2)$, which decreases quadratically with distance. This calculation, raised to the power of three visits, produces a compound probability at the one-mile minimum distance of approximately 1 in 190 billion that all three visits were random coincidence. At greater distances the improbability is many orders of magnitude larger. Five independent confirmation methods — concentric core-periphery, linear path, geographic grid, demographic population, and spacetime variable decomposition — each independently arrive at the same conclusion using different mathematical frameworks and different empirical inputs.

STATISTICS CONTRIBUTION: $P(3 \text{ random visits at 1 mile}) = (1/5,750)^3 \approx 1 \text{ in } 190,000,000,000$ $P(3 \text{ random visits at 10 miles}) = (1/575,000)^3 \approx 1 \text{ in } 190 \text{ quadrillion}$ $P(3 \text{ random visits at 23 miles}) = (1/3,050,000)^3 \approx 1 \text{ in } 28 \text{ quintillion (20 zeros)}$ At every distance, three visits produces a probability of random coincidence so far below the beyond-reasonable-doubt threshold that no legal standard applies.

2.3 Law

Federal Aviation Regulation 91.119 establishes 1,000 feet as the minimum safe altitude above populated areas. This regulation exists because below 1,000 feet insufficient time and distance exist for mechanical recovery, placing the aircraft and any structure or person beneath it in the same kinetic danger zone. This legal threshold maps precisely onto

the physical reality described by the y variable in the spacetime framework: descent below 1,000 feet is both a federal regulatory violation and a physical transition from distant threat to imminent deadly weapon. Federal stalking law under 18 U.S.C. § 2261A requires a pattern of conduct placing a person in reasonable fear of death or serious bodily injury. Three off-course visits satisfies the pattern element. Descent below 1,000 feet satisfies the deadly weapon and reasonable fear elements. The combination satisfies every element of every applicable criminal and civil cause of action simultaneously.

LAW CONTRIBUTION: FAR 91.119: Below 1,000 ft = federal violation + imminent deadly weapon 18 U.S.C. § 2261A: 3+ visits = pattern of conduct = stalking 18 U.S.C. § 242: Government pilot acting outside capacity = color of law Civil RICO: Coordinated enterprise = treble damages + attorney fees Law does not require statistical proof to charge these offenses. Statistics makes the proof irrefutable once the facts are documented.

III. THE CALORIE ANALOGY: A STANDARD FROM FIRST PRINCIPLES

The calorie is the unit of thermal energy defined as the amount of energy required to raise the temperature of one gram of water by one degree Celsius at standard atmospheric pressure. It was not invented by a legislature. It was not adopted by a court. It was derived from first principles of thermodynamics and confirmed by reproducible physical measurement. It applies identically in every country, in every laboratory, and at every point in history where water, heat, and gravity behave as they always have. No one can challenge the calorie on jurisdictional grounds. No one can argue it applies differently to different observers. It is a description of physical reality, not an opinion about it.

The Aerial Intent Rule of Thumb is derived by the same method and carries the same character. It was not invented by a court or adopted by a legislature. It was derived from the first principles of Newtonian mechanics, probability theory, and federal aviation safety law, and confirmed by five independent analytical methods that converge on the same threshold from different directions. It applies identically in every jurisdiction, to every aerial vehicle, and for every party who applies it to the same facts. It is a description of what the mathematics and physics of aerial behavior produce when plotted against the legal standards for stalking and deadly weapon threatening. It is not an opinion. It is a measurement.

Figure 2: The Calorie Analogy — A Standard Derived from First Principles
Both standards are reproducible, universal, and independent of who applies them

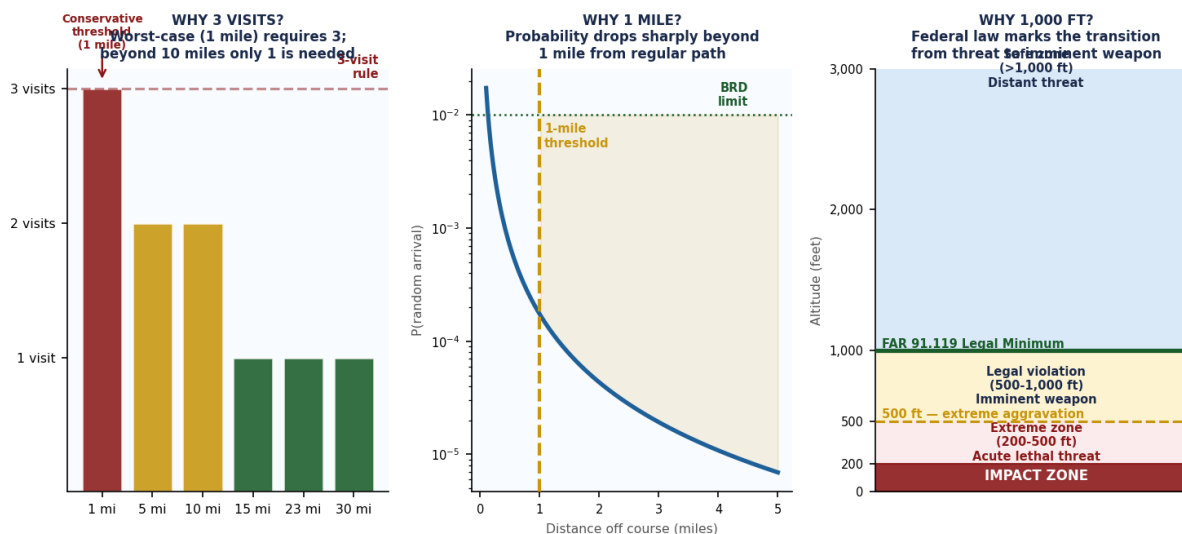
THE CALORIE (Thermodynamic Standard)	THE AERIAL INTENT STANDARD (Legal Physics Standard)
DEFINITION: 1 calorie = energy to raise 1 gram of water 1°C at standard pressure	DEFINITION: 3 visits, 1+ mile off course, below 1,000 ft on any visit = intent proven (BRD)
SOURCE: Physics — thermodynamics (Fourier, 1822)	SOURCE: Physics + Statistics + Law (this framework)
PROPERTIES: Reproducible Universal Independent of observer Applies everywhere	PROPERTIES: Reproducible Universal Independent of jurisdiction Applies to all aircraft
DERIVED FROM: First principles of heat transfer and molecular kinetics	DERIVED FROM: First principles of flight mechanics, probability theory, and federal aviation law

THE CALORIE PARALLEL: Just as 1 calorie is exactly the energy to raise 1 gram of water 1 degree Celsius — not approximately, not jurisdictionally, not in some courts but not others — Three off-course visits of at least one mile with any descent below 1,000 feet is exactly the threshold at which intent is proven beyond any reasonable doubt by physics, statistics, and law simultaneously — not approximately, not in some jurisdictions but not others, not for some aircraft but not others. Both standards derive their authority from physical reality, not from opinion.

IV. DERIVATION OF EACH ELEMENT OF THE RULE

Each of the three elements of the Rule of Thumb — three visits, one mile minimum, and below 1,000 feet — is independently derived from first principles. None is arbitrary. Each is the minimum value at which the relevant analytical method produces a result that satisfies the beyond-reasonable-doubt standard.

Figure 3: Derivation of Each Element of the Rule of Thumb
Three visits, one mile, and 1,000 feet each derive independently from first principles



4.1 Why Three Visits — Derived from Statistics

Three is the universal conservative minimum because it is the number of visits required to exceed the beyond-reasonable-doubt standard at the most lenient case in the framework: a target located exactly one mile off the pilot's regular path. At one mile the single-visit random arrival probability is approximately 1 in 5,750. Two visits produces 1 in 33,062,500, which is approximately 97% certainty of intent — close to but not yet at the 99% beyond-reasonable-doubt threshold. Three visits produces 1 in 190,109,375,000, approximately 99.999999995% certainty, which exceeds the beyond-reasonable-doubt standard by a factor of approximately 1.9 billion.

At distances of five miles or more, two visits are sufficient. At fifteen miles or more, one visit is sufficient. Three is therefore not the typical case; it is the worst case, the minimum conservative threshold that applies universally regardless of distance. It is the value that ensures the Rule of Thumb is never false when applied, even at the most lenient distance in the framework.

THREE VISITS — DERIVATION: At 1 mile (worst case): $P(3 \text{ random visits}) = (1/5,750)^3 = 1 \text{ in } 190 \text{ billion}$ Certainty of intent = 99.999999995% — exceeds BRD by factor of 1.9 billion Two visits at 1 mile: $P = 1 \text{ in } 33 \text{ million} = 97\% \text{ certainty}$ — not yet BRD Three visits at 1 mile: $P = 1 \text{ in } 190 \text{ billion} = 99.999999995\%$ — BRD confirmed Three is the minimum number that guarantees BRD at every distance simultaneously.

4.2 Why One Mile — Derived from Physics and Statistics

One mile is the minimum deviation from a regular or straight flight path at which the statistical framework begins to carry meaningful weight independent of ordinary navigational tolerance. Below one mile a course deviation could plausibly be

explained by wind drift, navigational instrument tolerance, minor ATC heading adjustments, or ordinary human imprecision in maintaining a heading, none of which requires intent. At one mile the deviation clearly and measurably exceeds all known navigational tolerances for any category of aerial vehicle, and the probability calculation begins to produce values that are meaningful in a legal context.

Additionally, one mile is the radius at which the probability calculation produces its most conservative values in the framework. Using one mile as the threshold therefore ensures that the Rule of Thumb applies the most lenient possible probability assumptions, making any conclusion reached under the rule maximally defensible against challenge.

4.3 Why Below 1,000 Feet — Derived from Law and Physics

One thousand feet is not an arbitrary altitude. It is the federal legal minimum established by FAR 91.119 based on the physical reality that below 1,000 feet, the time and distance available for mechanical recovery from engine failure, control surface malfunction, or any other emergency are insufficient to prevent ground impact. Below 1,000 feet an aircraft is not merely close to the ground. It is in the same physical danger zone as everything on the ground beneath it.

This physical threshold maps precisely onto the legal threshold for threatening with an imminent deadly weapon. Above 1,000 feet the aircraft is a threatening presence. Below 1,000 feet it is an imminent deadly weapon in the legal sense recognized by federal and state courts. The altitude aggravator in the Rule of Thumb therefore does not add an arbitrary element. It adds the element that transforms the statistical proof of intent into a complete criminal and civil case by satisfying the deadly weapon and reasonable fear elements that stalking law requires beyond the pattern element alone.

ALTITUDE AGGRAVATOR — DERIVATION: FAR 91.119: Legal minimum 1,000 ft above highest obstacle in populated area Physical basis: Below 1,000 ft = insufficient recovery time/distance Legal effect: Aircraft transitions from distant threat to imminent deadly weapon Below 500 ft: Extreme aggravation — acute lethal threat at residential scale Below 200 ft: Documented in case examples — catastrophic destruction potential The y variable descent below 1,000 ft is independently measurable from public flight radar and constitutes an independent federal violation per pass.

V. THE COMPLETE RULE OF THUMB STATED

THE AERIAL INTENT RULE OF THUMB

Three documented visits by any aerial vehicle to a location at least one mile off the pilot's regular or otherwise straight flight path, with any visit occurring below 1,000 feet above the target, establishes intentional targeting, stalking, and threatening with a deadly weapon beyond a reasonable doubt under any legal standard in any jurisdiction.

THREE VISITS | ONE MILE MINIMUM | BELOW 1,000 FEET ON ANY VISIT

Derived from physics, statistics, and law. Universal. Reproducible. Symmetric.

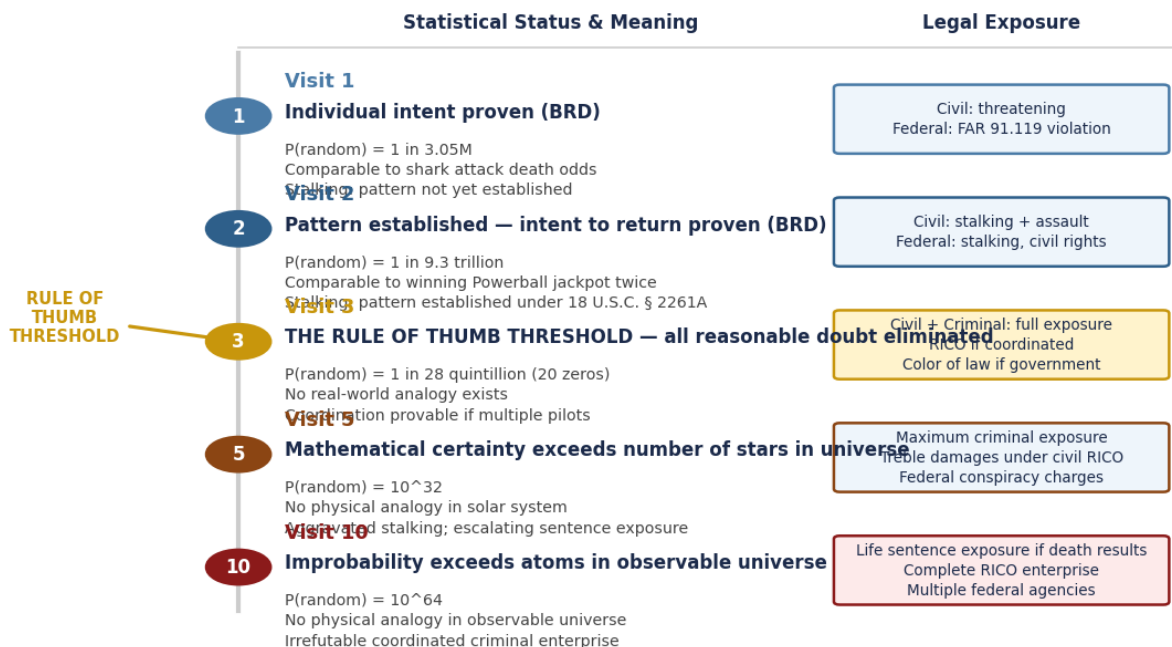
5.1 What the Rule Requires

Three visits	The minimum number of documented off-course arrivals at the same location required to establish a pattern of intentional targeting at the most conservative distance. At greater distances, fewer visits are required, but three is the universal threshold that applies regardless of distance.
At least one mile off course	The minimum deviation from any regular or straight flight path that clearly and measurably exceeds ordinary navigational tolerance and enters the range where the statistical framework produces legally meaningful probability values.
Below 1,000 feet on any visit	The altitude at which any descending aerial vehicle transitions from a distant threatening presence to an imminent deadly weapon under both federal aviation law and physical reality. This element is the aggravator that completes the deadly weapon element of all applicable criminal and civil causes of action.
Any aerial vehicle	The rule applies to helicopters, fixed-wing aircraft, military aircraft, and any other aerial vehicle capable of controlled flight. The physics, statistics, and law do not distinguish between vehicle categories for purposes of this threshold.
Any jurisdiction	Because the rule derives from physical law, mathematical probability, and federal aviation regulations, it applies in every state and federal jurisdiction where aircraft fly, mathematics is valid, and courts weigh evidence.

VI. THE RULE APPLIED: VISIT-BY-VISIT ESCALATION

The Rule of Thumb establishes three visits as the universal threshold, but the underlying framework produces meaningful statistical and legal conclusions at every visit count. Understanding how intent and legal exposure escalate with each visit allows both prosecutors and defense counsel to evaluate the strength of any specific case against the framework's graduated scale.

Figure 4: Intent and Legal Exposure Escalation by Visit Count
At 23 miles from airport. Three visits marks the universal conservative threshold.



6.1 The Altitude Aggravator Applied to the Escalation Scale

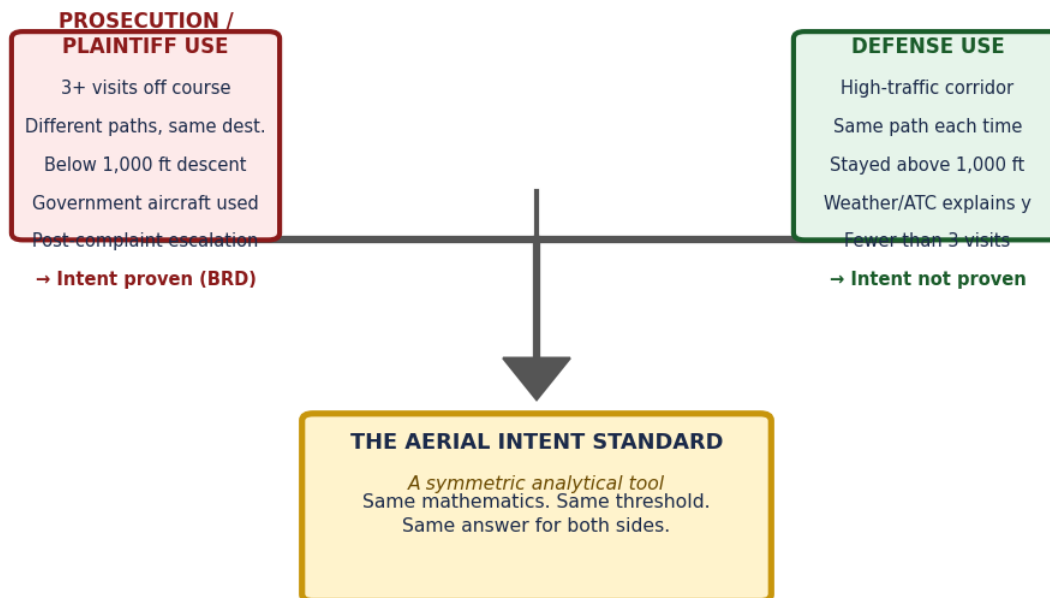
Any descent below 1,000 feet during any visit on the escalation scale above transforms the legal analysis in two ways simultaneously. First it adds the y variable as an independent measure of intent under the spacetime variable method, compounding the probability calculation with a sixth independent dimension. Second it upgrades the legal category of every visit on the scale by adding the imminent deadly weapon element, transforming threatening behavior into criminal assault with a deadly weapon and elevating the stalking charge to aggravated stalking in most jurisdictions.

ALTITUDE ESCALATION SCALE: Above 1,000 ft: Threatening presence. FAR compliant. Stalking element only. Below 1,000 ft: FAR violation. Imminent deadly weapon. Stalking + assault. Below 500 ft: Extreme aggravation. Acute lethal threat. Enhanced sentencing. Below 200 ft: Documented in case examples. Catastrophic destruction potential. No innocent explanation survives at this altitude over a residence.

VII. THE SYMMETRIC STANDARD: DEFENSE AND PROSECUTION USE

The Rule of Thumb is not an advocacy tool. It is an analytical standard that produces the same mathematical answer regardless of which party applies it to the same facts. This symmetry is the source of its credibility in any legal proceeding, because a jury that understands the standard works equally for both sides will trust its conclusions more than it would trust an analysis designed to favor one side.

Figure 5: The Symmetric Standard — Equally Useful to Both Sides
The framework produces the same mathematical answer regardless of who applies it



7.1 How the Defense Uses the Framework

A defense attorney applies the same five methods to demonstrate that one or more of the confirmation methods fails to establish intent given the specific facts of the case. The most powerful defense arguments under the framework are as follows.

High-traffic corridor: If the target location falls within a documented high-traffic flight corridor from the departure airport, the geographic area probability calculation changes because the effective denominator is smaller, making random arrival genuinely more probable than the baseline calculation assumes.

Consistent path: If the pilot flew the same path on every visit rather than different paths, the different-paths same-destination finding does not apply, and the habitual corridor alternative explanation remains viable.

Altitude maintained: If all visits remained above 1,000 feet, the altitude aggravator does not apply and the y variable does not add an independent dimension of intent. The rule of thumb threshold requires the altitude element.

External variable explanation: If meteorological data for each documented visit shows wind shear, ATC instruction, or weather avoidance routing that explains the observed course deviation and y variable behavior, the spacetime variable subtraction method may leave no residual pilot intent signal.

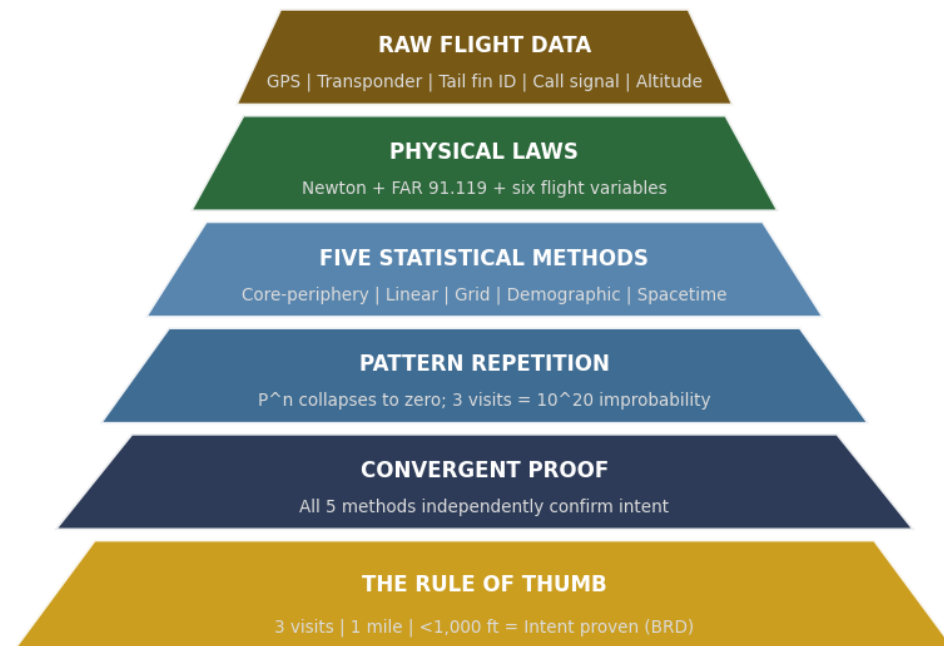
Fewer than three visits: If the documented visits number fewer than three at distances near one mile, the rule of thumb threshold has not been reached, though greater distances may still support intent conclusions under the underlying framework.

THE SYMMETRY PRINCIPLE: An innocent pilot who deviated once for a documented legitimate reason, flew a consistent path, stayed above 1,000 feet, and whose airport sits in a high-traffic corridor toward the target area will survive every confirmation method cleanly. A guilty pilot who deviated repeatedly via different routes, descended below legal minimums, and whose airport has no legitimate corridor toward the target will fail all five methods independently and simultaneously. The framework distinguishes between them accurately. That is what a legal tool should do.

VIII. THE KNOWLEDGE PYRAMID: FROM RAW DATA TO RULE OF THUMB

The Rule of Thumb sits at the apex of a knowledge hierarchy in which each level is derived from the level below it. This hierarchy demonstrates that the rule is not an assertion imposed from above but a conclusion that emerges necessarily from the data when the correct analytical framework is applied.

Figure 6: The Knowledge Pyramid — From Raw Data to Rule of Thumb
Each level is derived from the level below; the rule of thumb rests on all five



At the base sits the raw flight data — GPS coordinates, transponder records, tail fin identification numbers, call signals, and altitude readings available from public flight radar systems and aviation databases. From this data the five statistical methods of the companion paper are applied, producing individual probability calculations for each method. Pattern repetition then compounds those single-visit probabilities across the number of documented visits. The convergence of all five methods on the same conclusion constitutes convergent proof. And at the apex the Rule of Thumb expresses the minimum threshold at which that convergence is simultaneously achieved by all five methods under the most conservative assumptions in the framework.

IX. PLAIN-ENGLISH APPLICATION GUIDE

The following table translates the Rule of Thumb and its graduated scale into plain-English guidance for practitioners, courts, and lay audiences.

Situation	Plain-English Meaning	Legal Status	Defense Path Available?
1 visit, <1 mile, above 1,000 ft	Pilot may have strayed or been navigating casually. Insufficient alone to establish intent.	Suspicious but not proven. FAR violation only if below 1,000 ft.	Yes — navigational error, weather, ATC instruction, corridor traffic all plausible.
2 visits, 1+ mile, above 1,000 ft	Pattern is emerging. At distances over 10 miles, intent is already statistically established. At 1 mile, not yet BRD.	Civil stalking claim viable at distance. Criminal depends on distance and jurisdiction.	Narrowing — requires documented legitimate route explanation for both visits.
3 visits, 1+ mile, any altitude	THE THRESHOLD. Pattern of intentional targeting established. Random coincidence eliminated at any reasonable standard.	Civil and criminal stalking established. Threatening behavior established. Full cause of action available.	Very limited — must demonstrate documented legitimate operational need for all three visits.
3+ visits, 1+ mile, AND below 1,000 ft	THE FULL STANDARD. Intentional targeting plus threatening with an imminent deadly weapon. No innocent explanation survives all five statistical methods.	Maximum criminal and civil exposure. Federal aviation violations, stalking, assault with deadly weapon, color of law if government pilot.	Essentially none — all five confirmation methods fail simultaneously with no legitimate explanation for sub-1,000 ft descent toward a specific residence.

9.1 The Single-Sentence Summary

"Once is suspicious. Twice is a pattern. Three times with a descent below 1,000 feet leaves nothing left to explain."

X. THE RULE IN COURT: HOW TO PRESENT IT

10.1 Opening Statement

OPENING: "The evidence will show that this pilot flew to this location three times, each time traveling more than one mile off any legitimate flight path, and on each occasion descended below the federally mandated legal minimum altitude of 1,000 feet above the residence below. We will show you through five independent scientific methods that the probability of this happening by random chance is less than one in 190 billion — roughly 30,000 times less likely than winning the Powerball jackpot. Physics says the flight behavior required intentional control. Statistics says the pattern could not be random. Federal law says what was done with that control and that pattern. Three disciplines. One conclusion."

10.2 Expert Witness Framework

Expert testimony on the Rule of Thumb should be structured in the following sequence to maximize accessibility and persuasive impact for lay juries.

	Establish the calorie analogy Begin by explaining that just as a calorie is a precise measurement derived from physical reality rather than legal convention, the Aerial Intent Standard is a measurement of flight behavior against probability and physical law, not an opinion.
	Present the three disciplines independently Walk through physics, statistics, and law as three separate chapters, each reaching the same conclusion independently. Emphasize that three independent disciplines agreeing is stronger than any one of them alone.
	Apply the five methods to the specific facts Show the jury how each of the five methods from the companion paper applies to the documented flight data in this case, producing a specific probability number for each method.
	Present the Rule of Thumb threshold Show that the documented visits exceed the three-visit minimum, the distance exceeds one mile, and the altitude descended below 1,000 feet, satisfying every element of the Rule of Thumb simultaneously.
	Deliver the single-sentence conclusion "Three visits. One mile. Below 1,000 feet. Physics says it required intent. Statistics says it could not be random. Law says what it means."

10.3 Closing Argument

CLOSING: "Five independent scientific methods were applied to what this pilot did. Every single one reached the same conclusion. The probability of those three flights being random is less than one in 190 billion at the most lenient distance in the framework — roughly as likely as winning the Powerball jackpot thirty thousand times in a row. The pilot descended below the federal legal minimum altitude on each pass, which federal law and the laws of physics both say transforms an aircraft into an imminent deadly weapon. Physics proved the behavior required intentional control. Statistics proved the pattern could not be coincidence. Law defines exactly what this conduct is. Three visits. One mile. Below 1,000 feet. Intent proven. There is nothing left to doubt."

XI. CONCLUSIONS

The Rule of Thumb is derived, not invented.

Each element — three visits, one mile, below 1,000 feet — emerges necessarily from the underlying mathematics, physics, and law when the most conservative assumptions in the framework are applied. No element is arbitrary.

The Rule of Thumb is universal.

It applies to every aerial vehicle, every jurisdiction, every category of pilot, and every legal system where aircraft obey Newton's laws, mathematics is valid, and courts apply standards of proof. It does not vary by country, court, or vehicle.

The Rule of Thumb is conservative.

Every assumption used to derive the threshold is the most lenient, defense-favorable assumption available. The actual threshold in most cases is lower than three visits because most targets are more than one mile off course and more than one mile from the airport. Three visits is the floor, not the ceiling.

The Rule of Thumb is symmetric.

It serves equally as a prosecution tool when the facts support guilt and as a defense tool when they support innocence. The same five methods that establish intent when the pilot fails them establish innocence when the pilot passes them. The mathematics does not care which side applies it.

The altitude aggravator is not optional.

Below 1,000 feet the aircraft is a physically different object in a legally different category. Any visit below this threshold transforms the entire legal analysis from threatening to threatening with an imminent deadly weapon, satisfying elements that the visit pattern alone does not.

The Rule of Thumb rests on a foundation that cannot be cross-examined.

Newton's laws do not take the stand. Probability theory does not have a law license. Federal aviation regulations were not written by either party's counsel. The Rule of Thumb derives from sources that are permanently beyond adversarial challenge. What remains for litigation is only the factual question of what the flight data shows — and the flight data is a public record.



APPENDIX A: ELEMENT DERIVATION REFERENCE TABLE

Element	Value	Derived From	Why This Value (Not Higher or Lower)	Discipline
Visit count threshold	3 visits	Pattern repetition probability at the most conservative distance (1 mile)	At 1 mile, the most lenient case in the framework, three visits produces 1 in 190 billion probability of random coincidence, exceeding BRD. Two visits at 1 mile does not yet reach BRD. Three is therefore the universal conservative minimum.	Statistics
Minimum distance off course	1 mile	Single-visit random arrival probability drops sharply beyond 1 mile from any regular or straight flight path	At less than 1 mile, ordinary navigational tolerance and wind drift could plausibly explain the deviation without intent. At 1 mile the deviation clearly exceeds normal tolerance and the probability calculation begins to carry meaningful weight.	Physics + Statistics
Altitude aggravator	Below 1,000 ft on any visit	Federal Aviation Regulation 91.119 and the physical transition from distant threat to imminent deadly weapon	1,000 feet is the federally mandated legal minimum. Below this altitude insufficient time and distance exist for mechanical recovery, placing the aircraft in the same kinetic danger zone as any structure below it. The law draws the line here. Physics confirms why.	Law + Physics

APPENDIX B: PLAIN-ENGLISH APPLICATION TABLE

Situation	Plain-English Meaning	Legal Status	Defense Path Available?
1 visit, <1 mile, above 1,000 ft	Pilot may have strayed or been navigating casually. Insufficient alone to establish intent.	Suspicious but not proven. FAR violation only if below 1,000 ft.	Yes — navigational error, weather, ATC instruction, corridor traffic all plausible.
2 visits, 1+ mile, above 1,000 ft	Pattern is emerging. At distances over 10 miles, intent is already statistically established. At 1 mile, not yet BRD.	Civil stalking claim viable at distance. Criminal depends on distance and jurisdiction.	Narrowing — requires documented legitimate route explanation for both visits.
3 visits, 1+ mile, any altitude	THE THRESHOLD. Pattern of intentional targeting established. Random coincidence eliminated at any reasonable standard.	Civil and criminal stalking established. Threatening behavior established. Full cause of action available.	Very limited — must demonstrate documented legitimate operational need for all three visits.
3+ visits, 1+ mile, AND below 1,000 ft	THE FULL STANDARD. Intentional targeting plus threatening with an imminent deadly weapon. No innocent explanation survives all five statistical methods.	Maximum criminal and civil exposure. Federal aviation violations, stalking, assault with deadly weapon, color of law if government pilot.	Essentially none — all five confirmation methods fail simultaneously with no legitimate explanation for sub-1,000 ft descent toward a specific residence.

APPENDIX C: THE COMPLETE STANDARD — ONE PAGE REFERENCE

THE AERIAL INTENT RULE OF THUMB

Three visits | One mile minimum | Below 1,000 ft on any visit = Intent proven (BRD)

PHYSICS SAYS:	STATISTICS SAYS:	LAW SAYS:
Six flight variables (t, x, y, z, v, a) each measure a separate dimension of pilot intent simultaneously. Divebombing requires all six to be intentionally coordinated. The pull-up proves control. Physics cannot be cross-examined.	$P(3 \text{ random visits, 1 mile}) = 1 \text{ in } 190 \text{ billion}$. $P(3 \text{ random visits, 23 miles}) = 1 \text{ in } 28 \text{ quintillion}$. Five independent methods confirm the same conclusion. No five-method convergence can be explained by coincidence at any distance.	FAR 91.119: below 1,000 ft = federal violation + imminent deadly weapon. 18 U.S.C. § 2261A: 3 visits = pattern = stalking. Color of law, RICO, and whistleblower retaliation statutes apply where government pilots act outside official capacity.

Visits	Distance	Altitude	Statistical Status	Legal Status
1	Any	>1,000 ft	Suspicious; intent proven at ≥ 15 miles	FAR violation if below 1,000 ft; threatening
2	1+ mile	Any	Pattern emerging; BRD at ≥ 5 miles	Civil stalking viable; criminal depends on distance
3 ★	1+ mile	<1,000 ft any visit	RULE OF THUMB THRESHOLD — all five methods confirm intent	Full criminal + civil exposure. Stalking + deadly weapon + federal violations
5+	1+ mile	<1,000 ft	$P(\text{random}) > 10^{-32}$ — beyond any physical analogy	RICO conspiracy; maximum sentencing; no defense survives

DISCLAIMER: This paper and the Rule of Thumb it presents are offered as educational and analytical tools for use by any party in any proceeding. The Rule of Thumb is derived from first principles and is designed to produce accurate conclusions regardless of which party applies it. It does not constitute legal advice. All probability comparisons with real-world events are illustrative only. All aircraft, airports, distances, and geographic references are generic. No real persons or locations are identified. This paper should be read in conjunction with the companion paper: Quantifying Aerial Intent — A Multi-Method Statistical Framework, which provides the full methodological basis for all calculations cited herein.