SAND2011-2561C

Impact Decision Support Diagrams:
A playbook for decision makers

e-poster by

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2011 IAA Planetary Defense Conference
Bucharest, Romania
May 9-12, 2011

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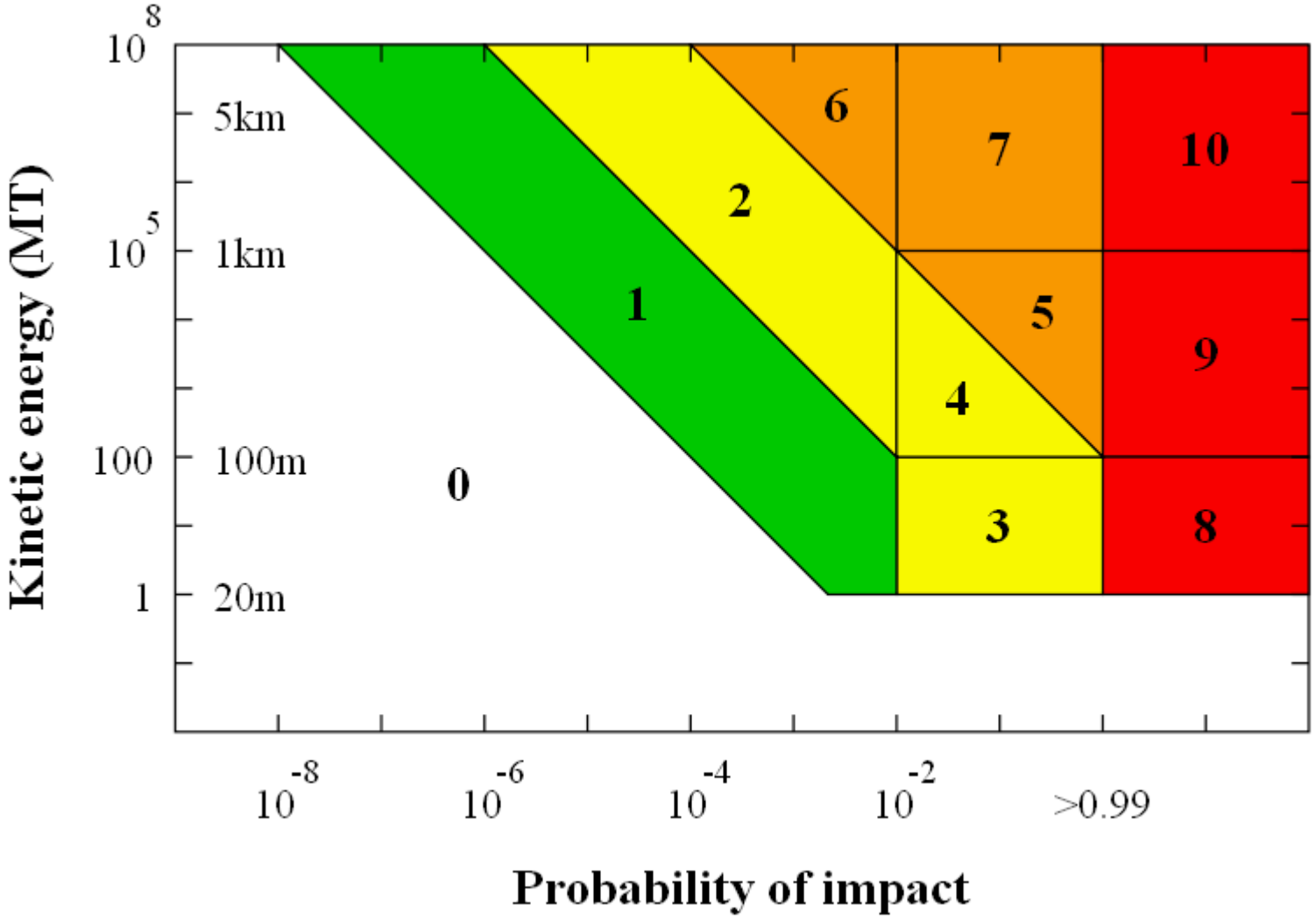
The Torino Scale



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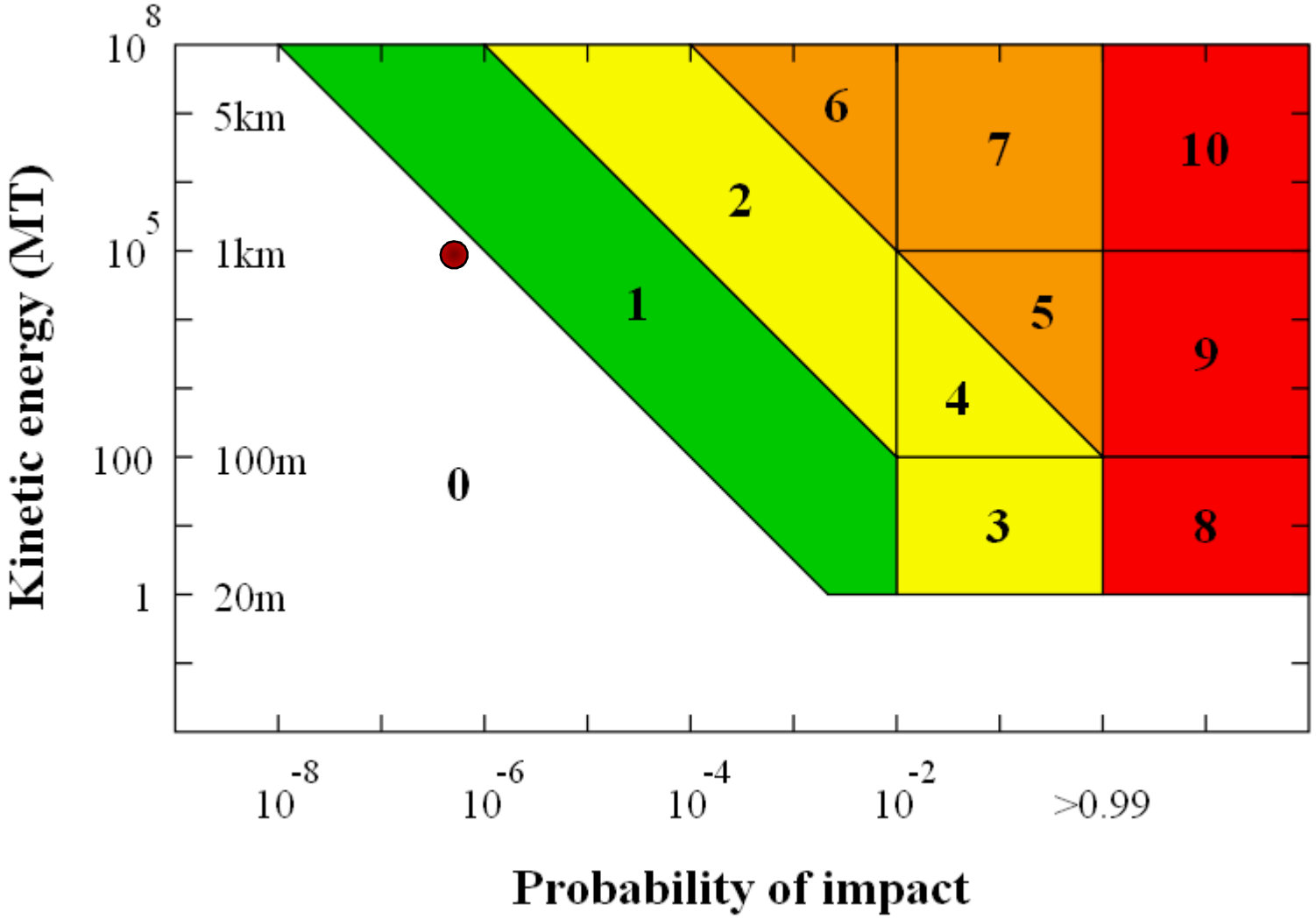

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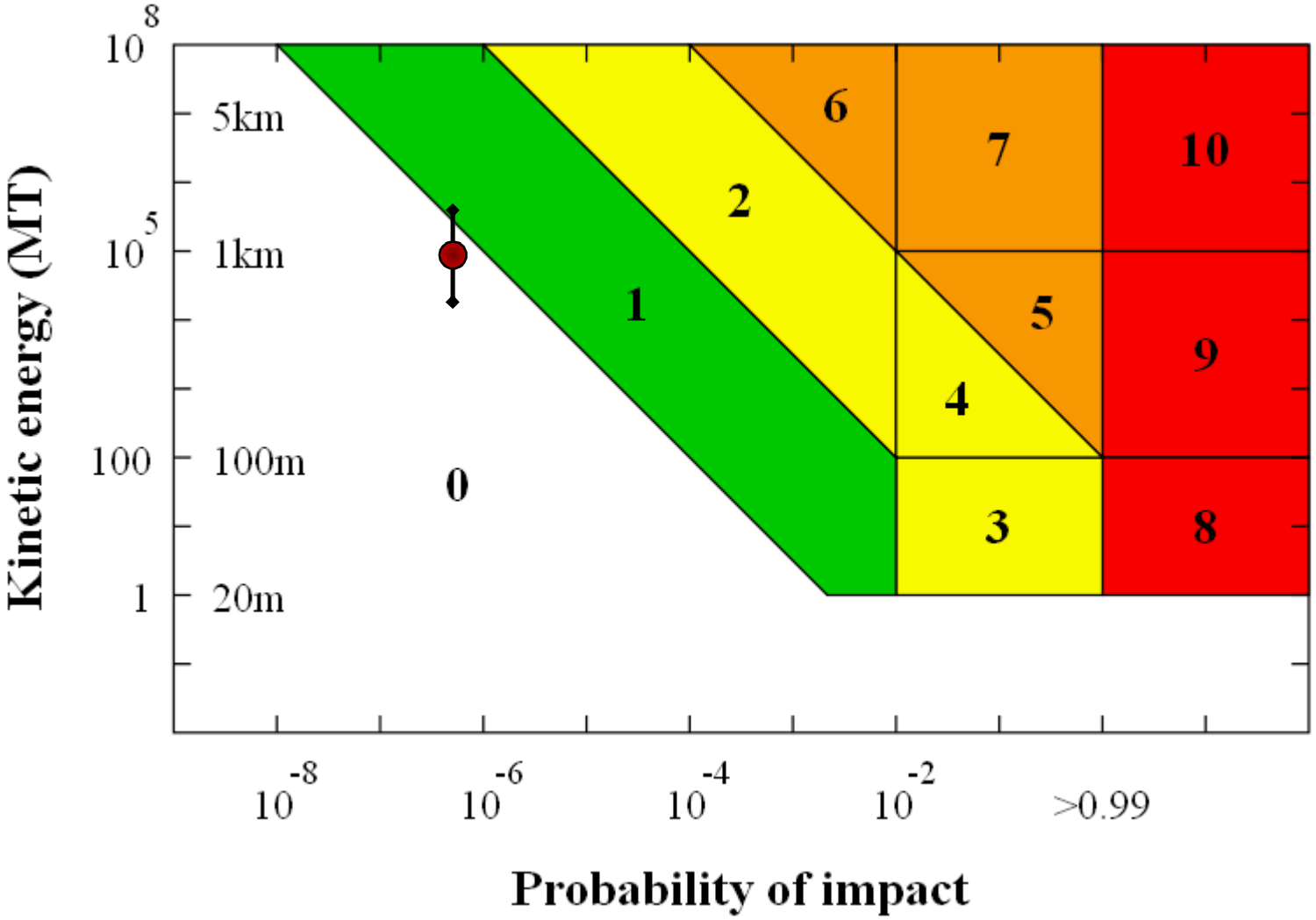

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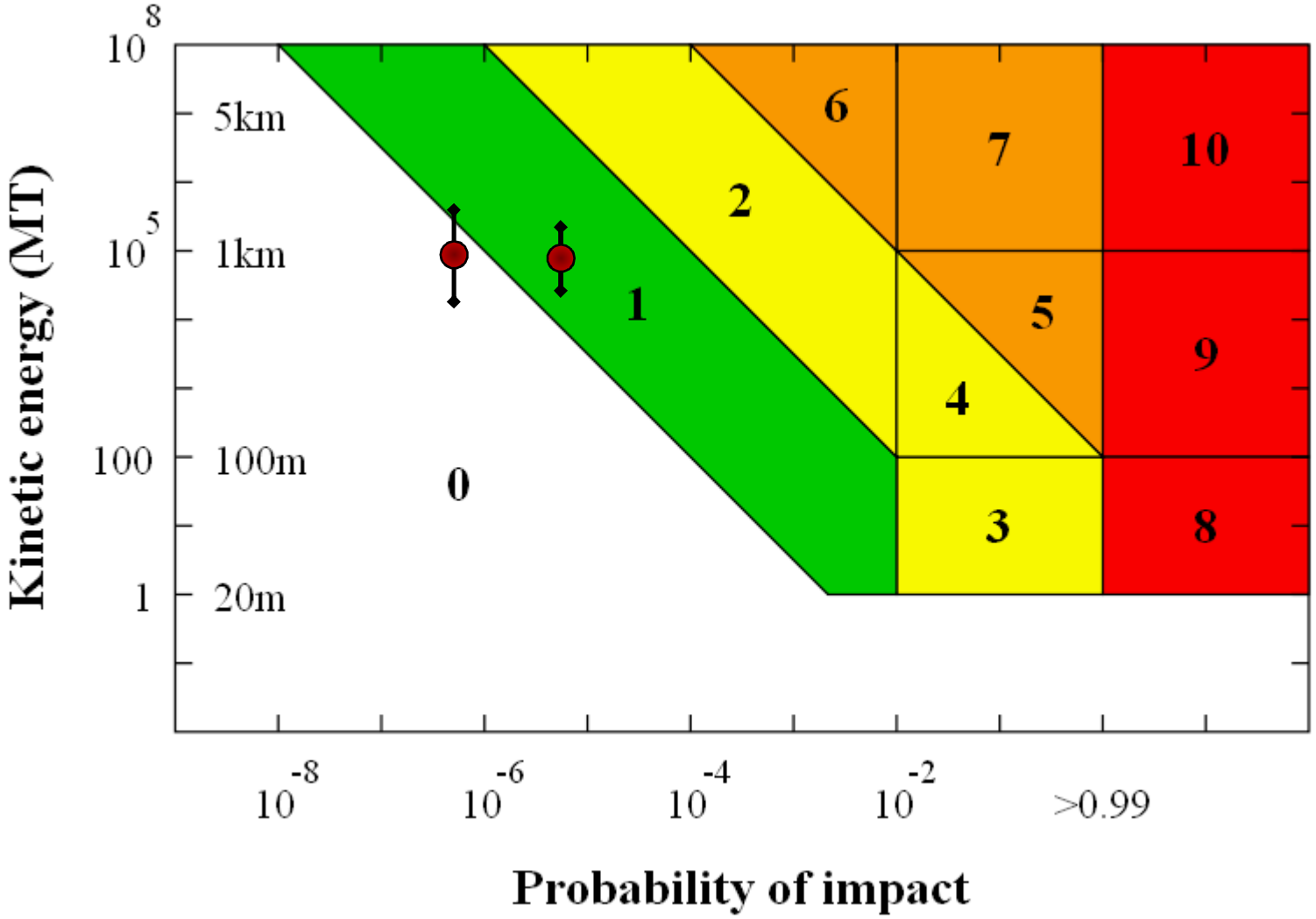

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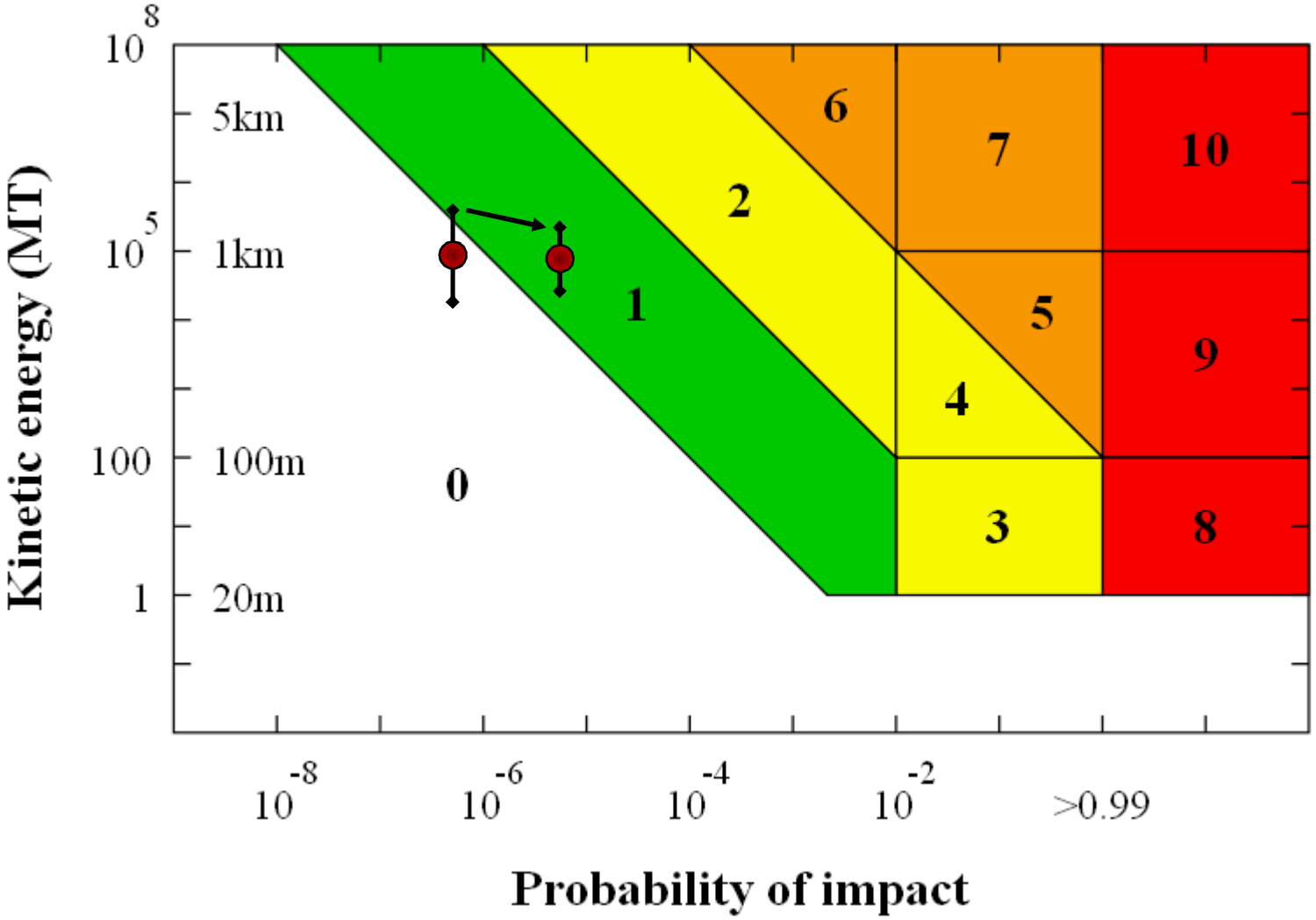

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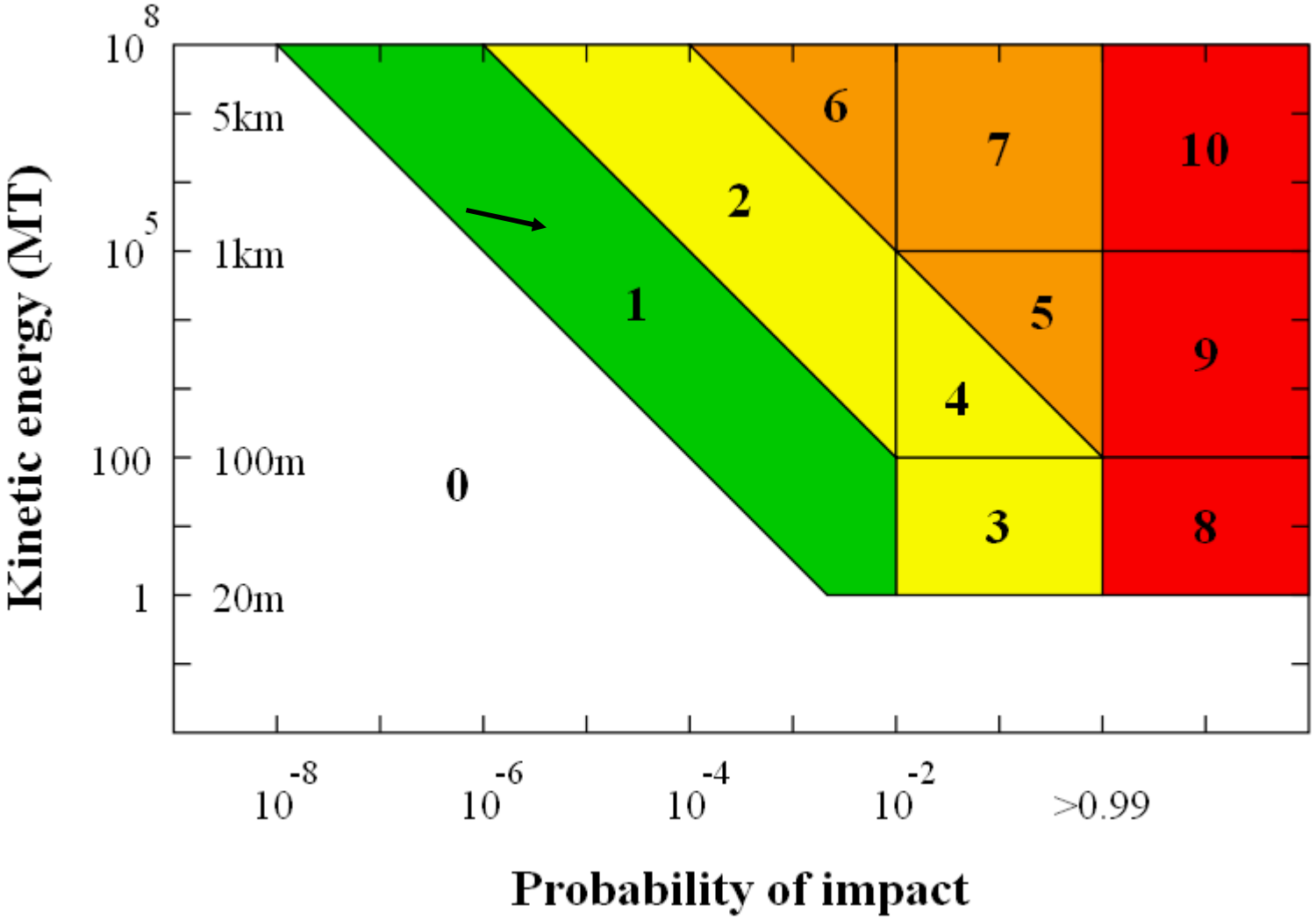

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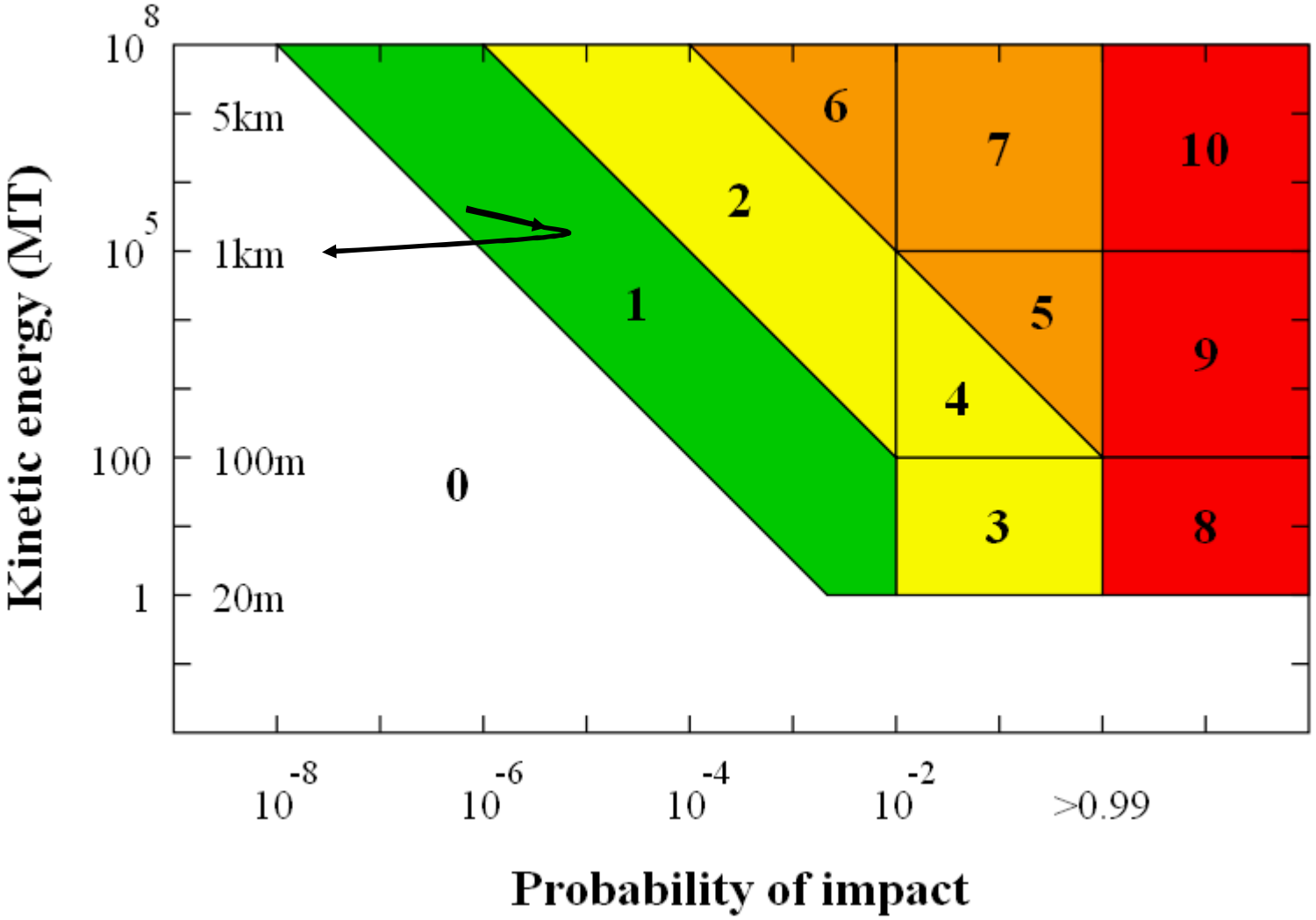

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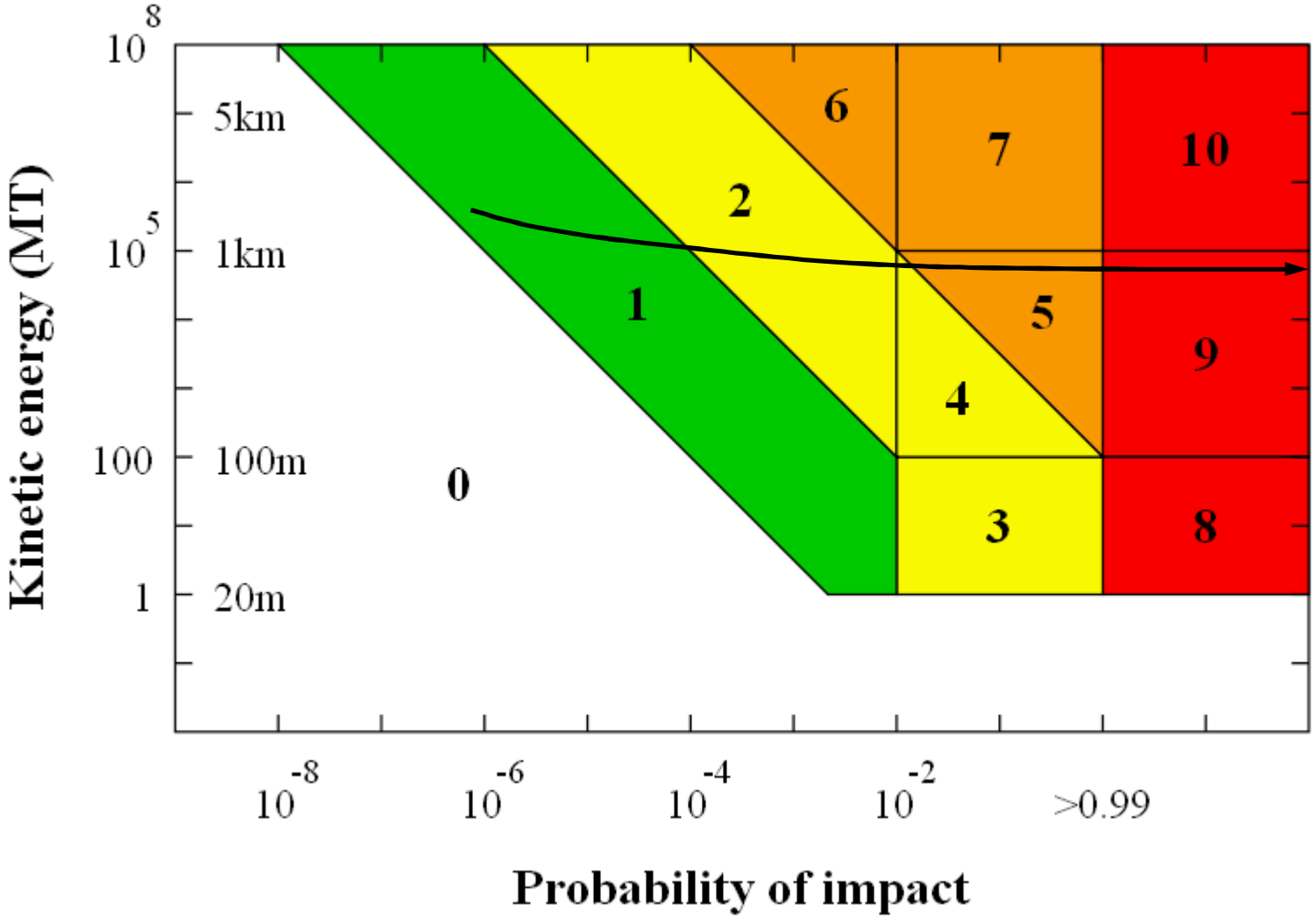

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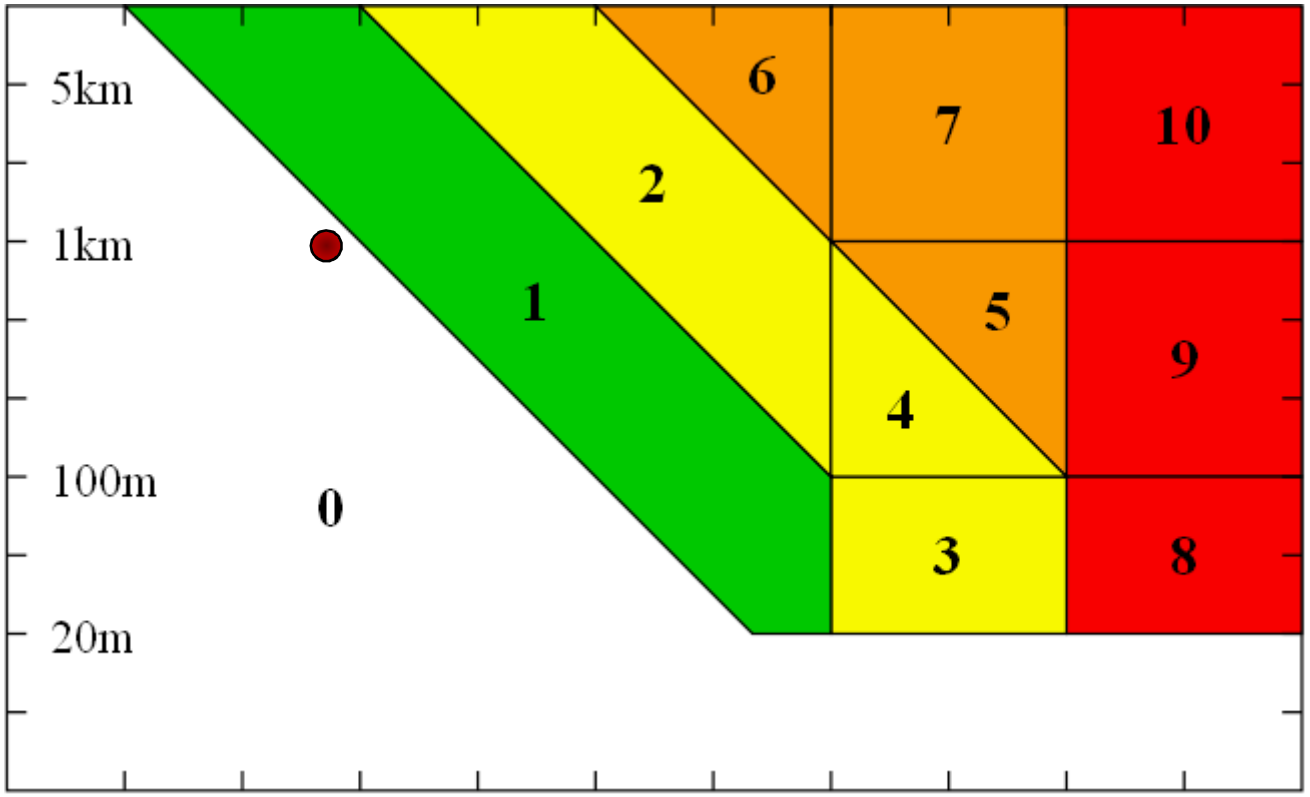
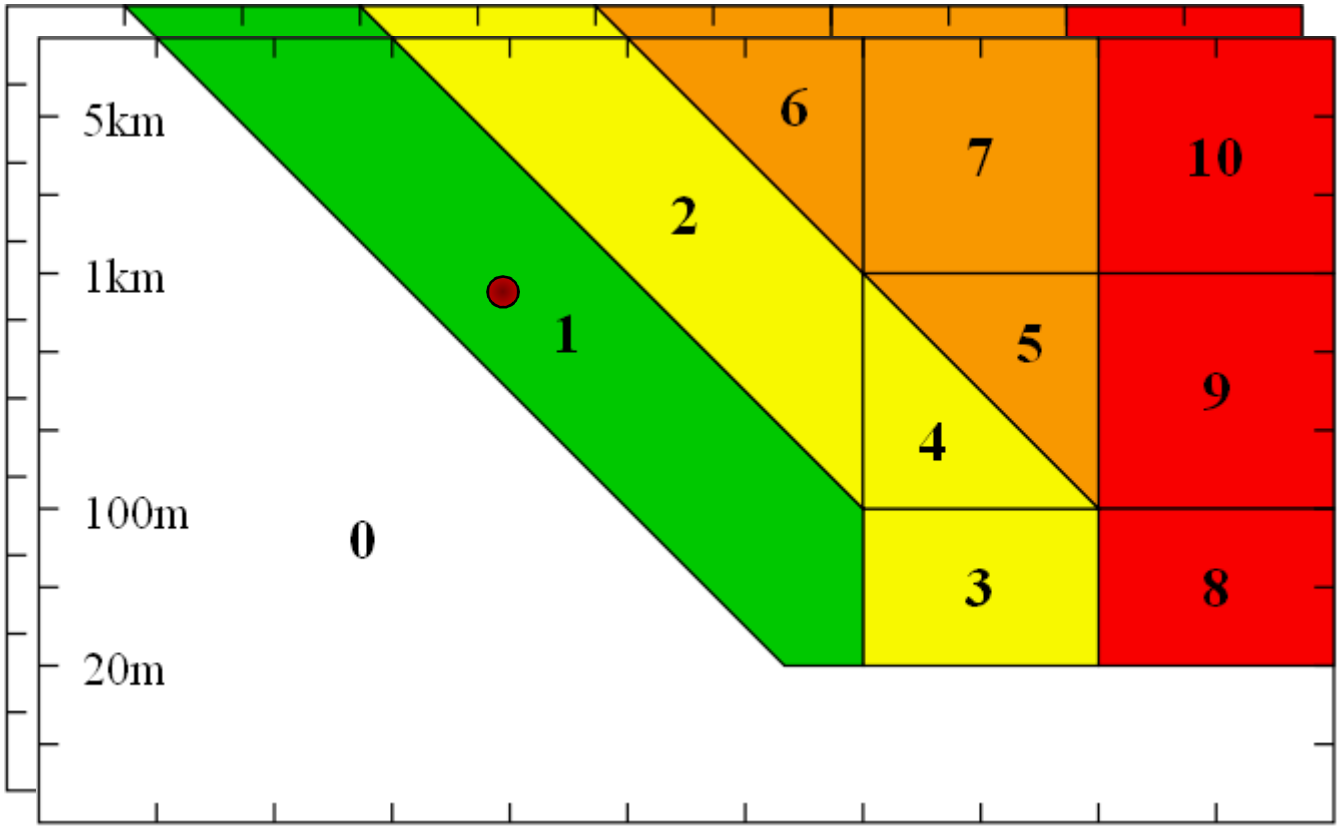


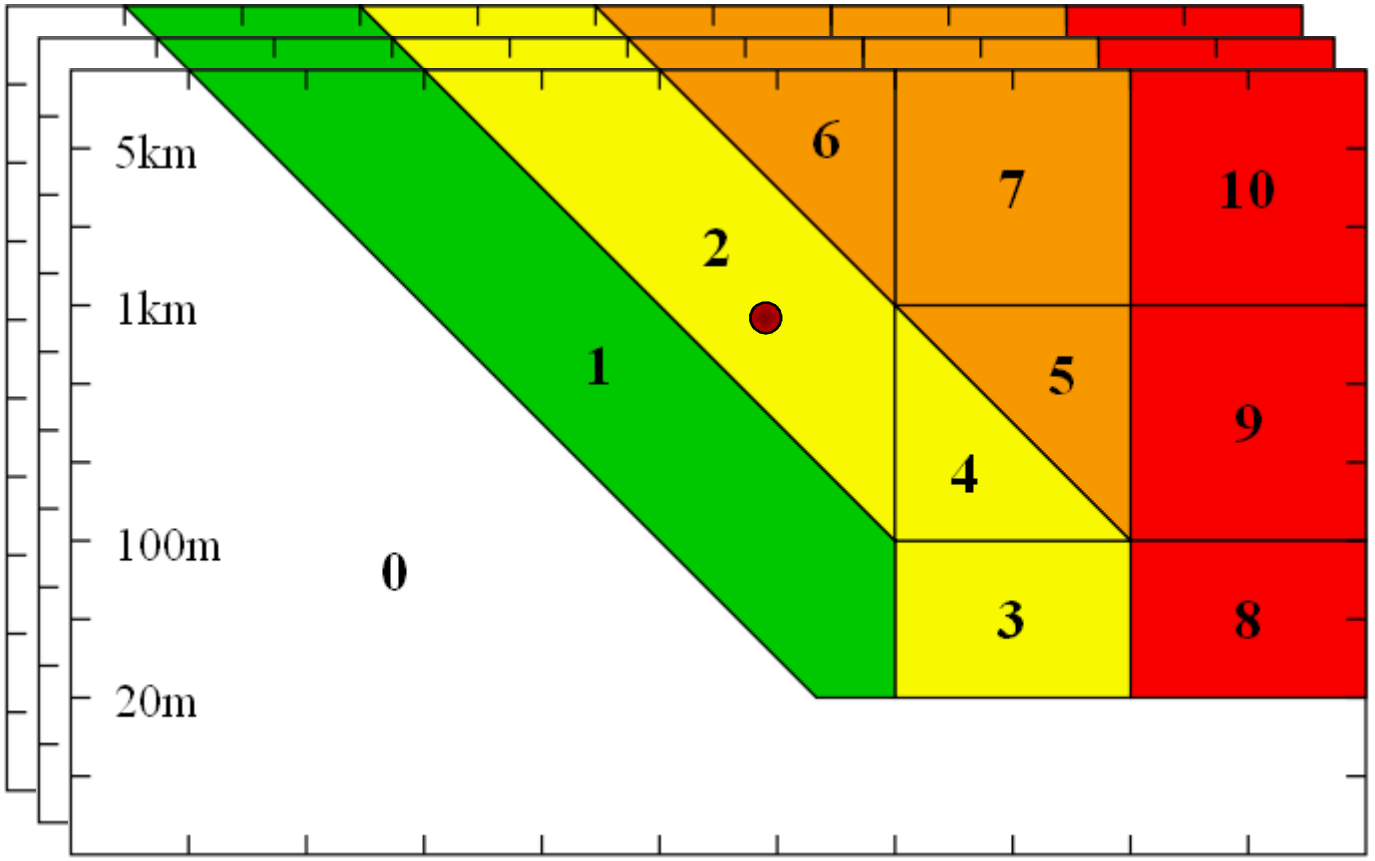
Time = 1

The Torino Scale



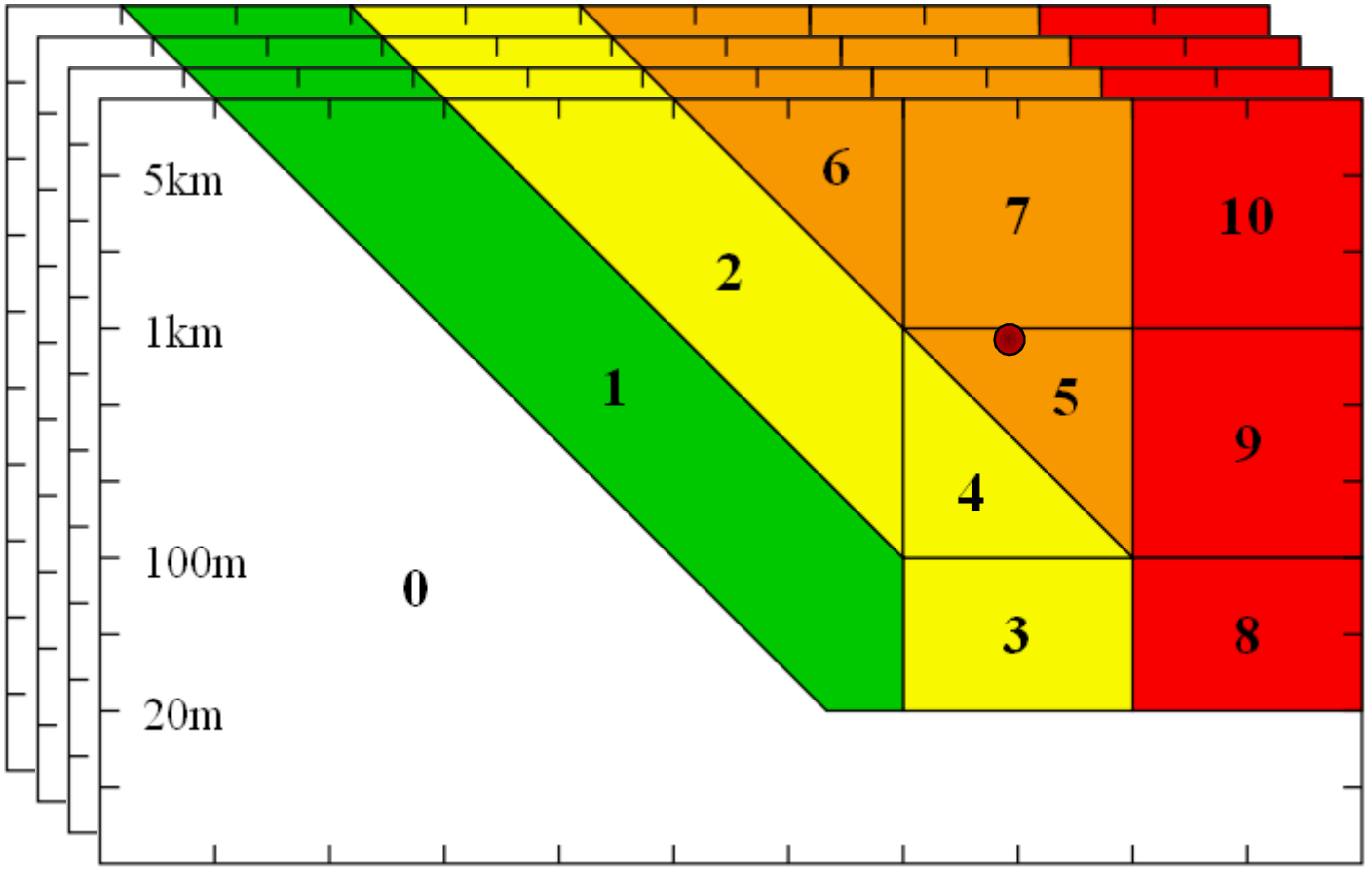
Time = 2

The Torino Scale



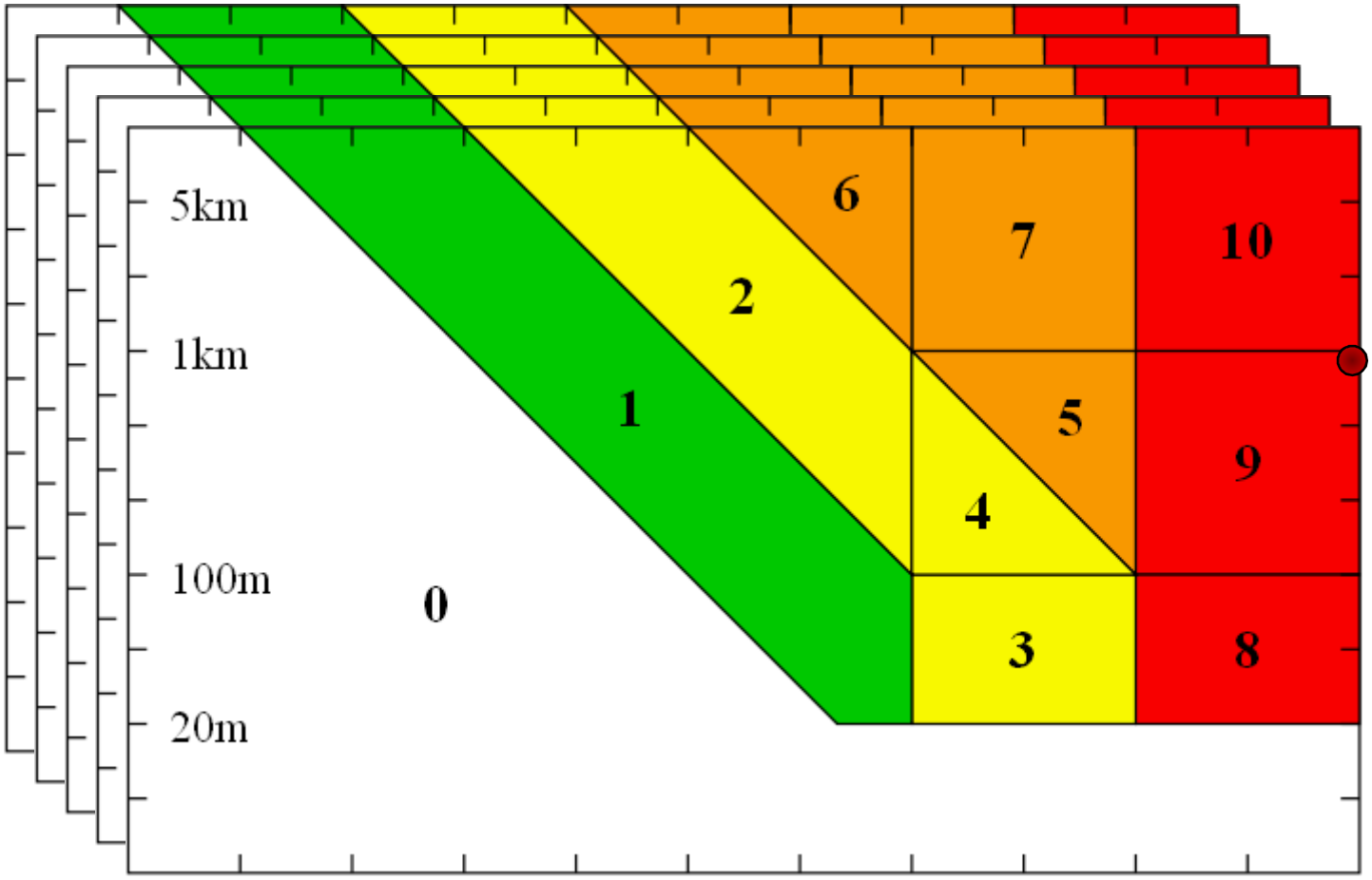
Time = 3

The Torino Scale

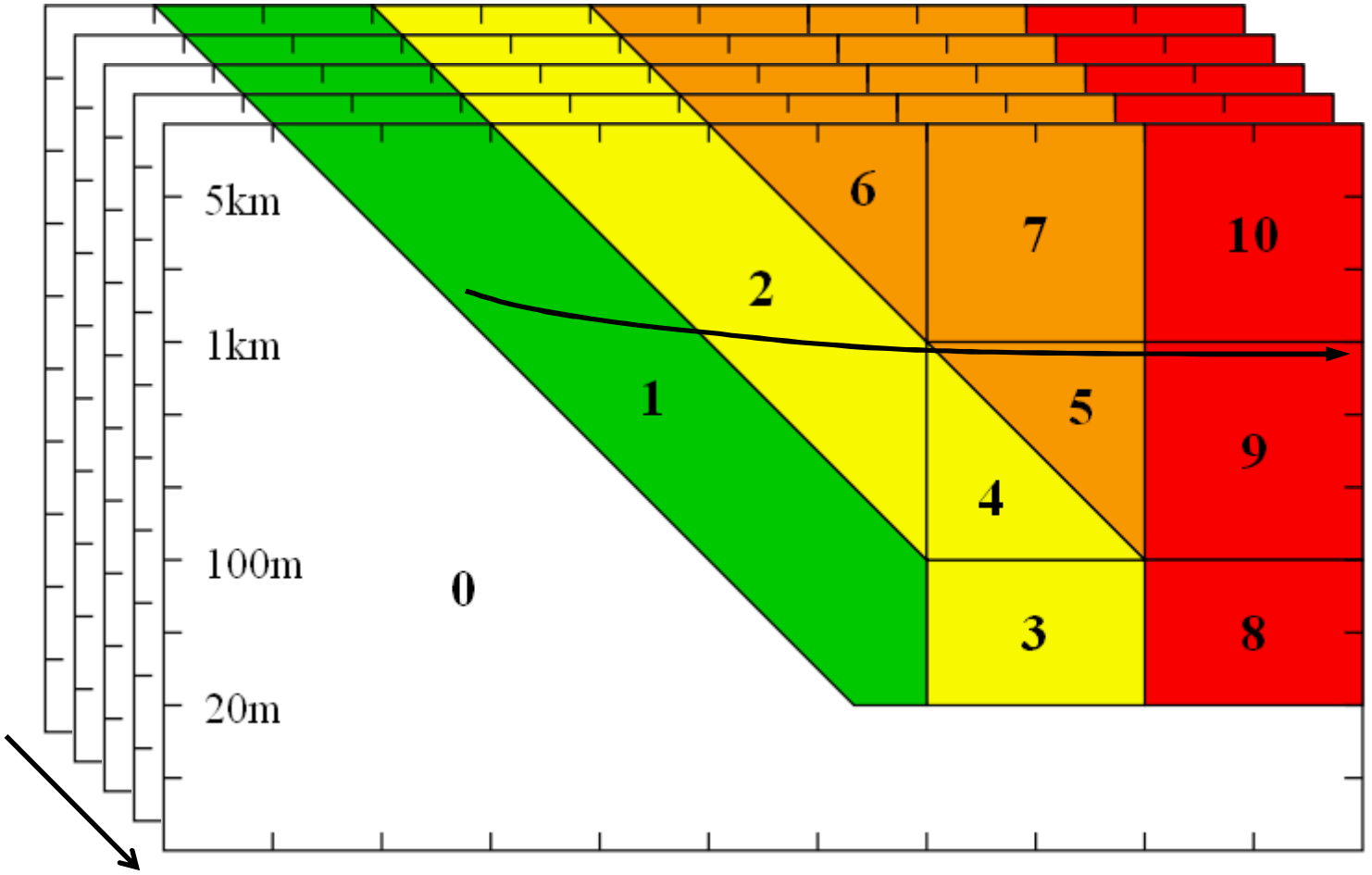


Time = 4

The Torino Scale

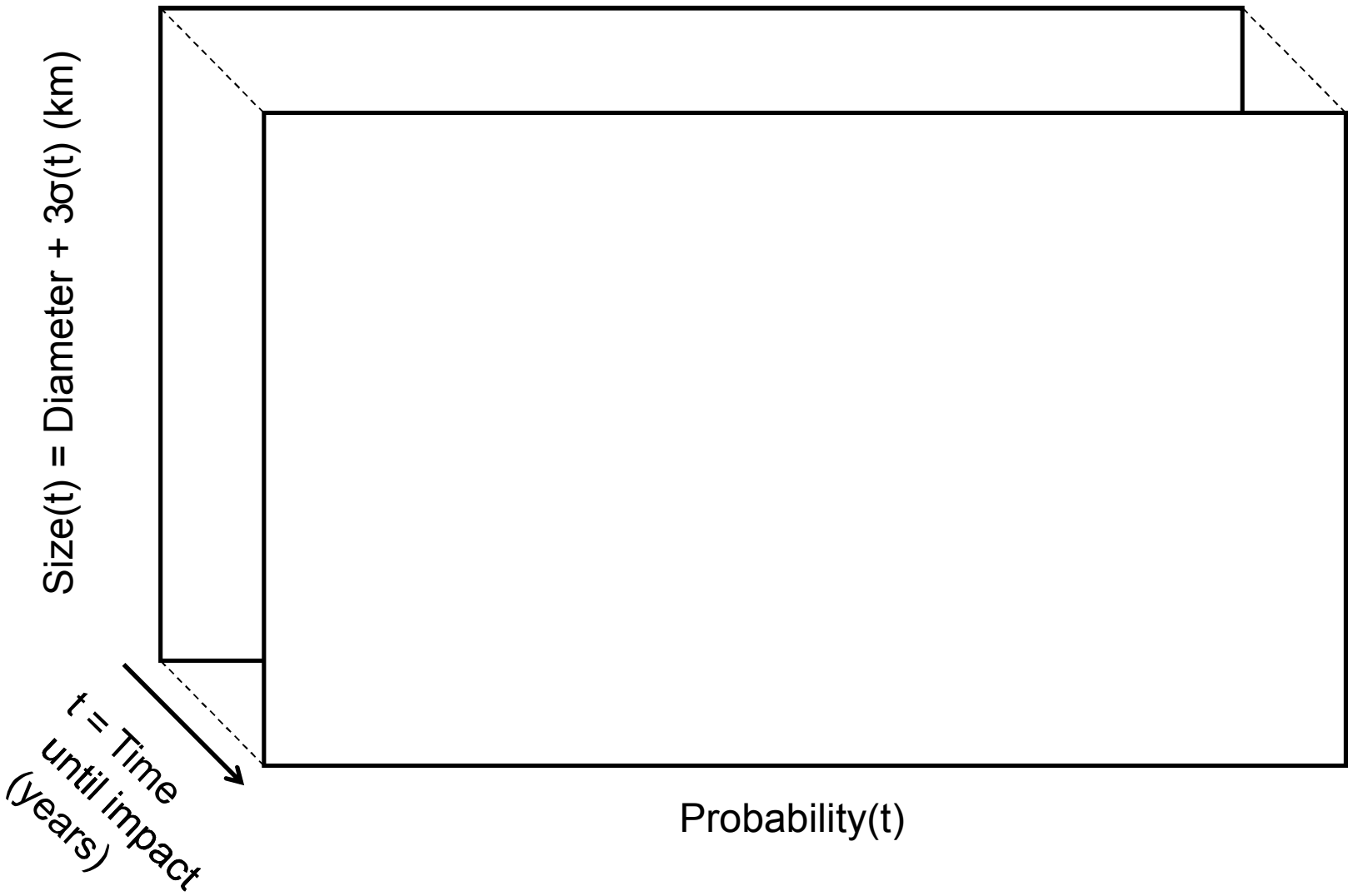


Decision support requires three dimensions



Time until impact is the third dimension

Decision support requires three dimensions



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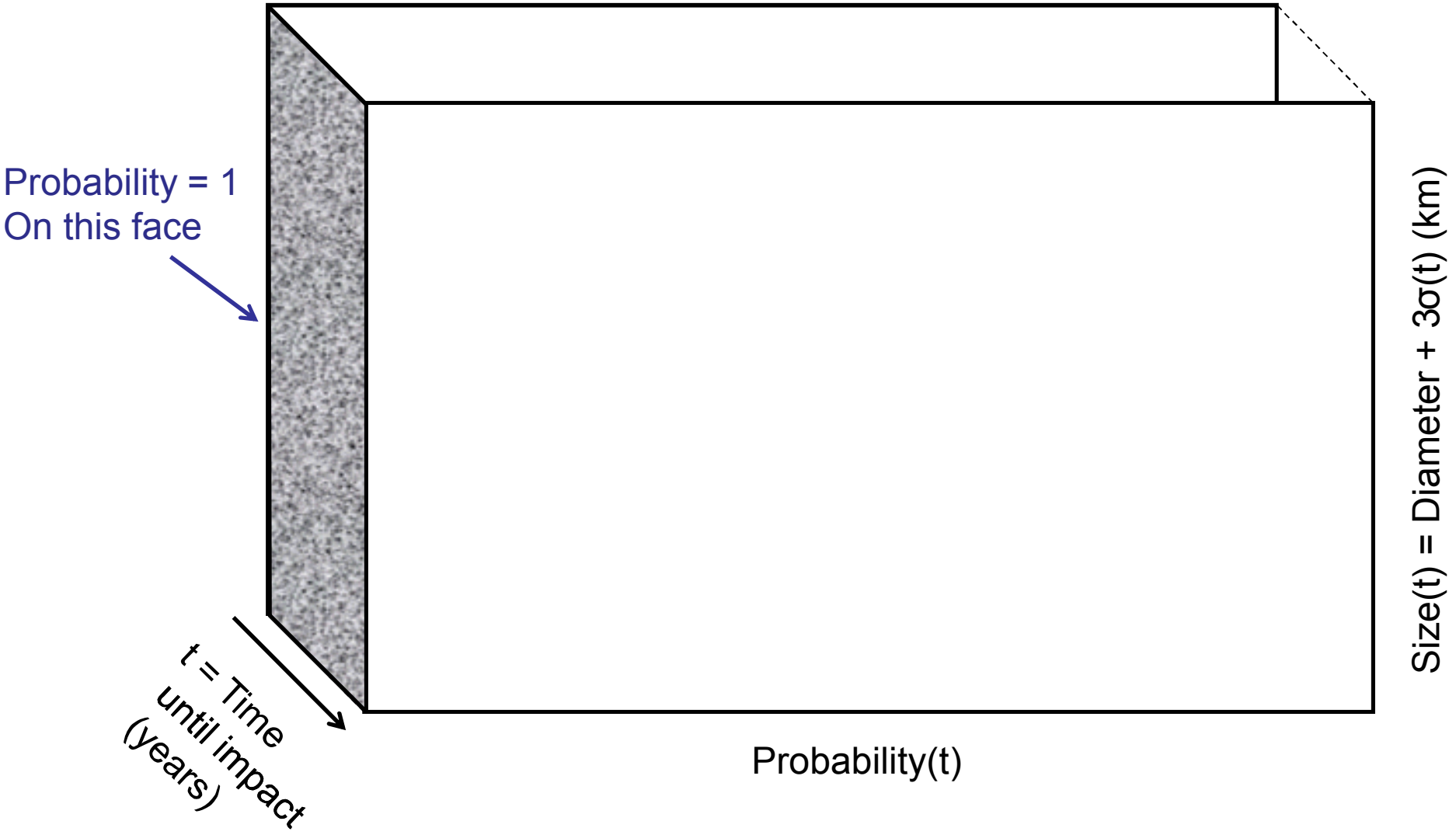

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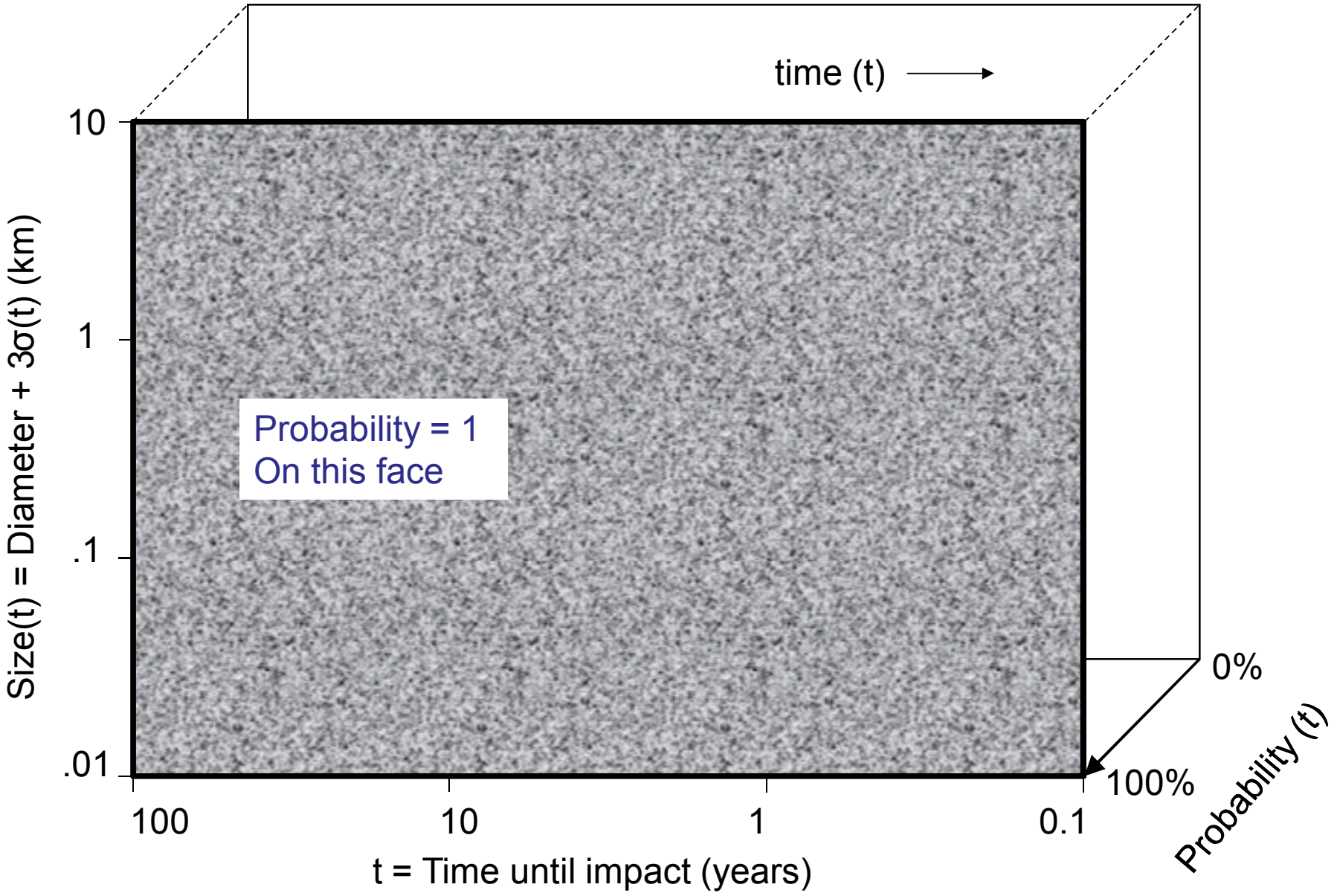
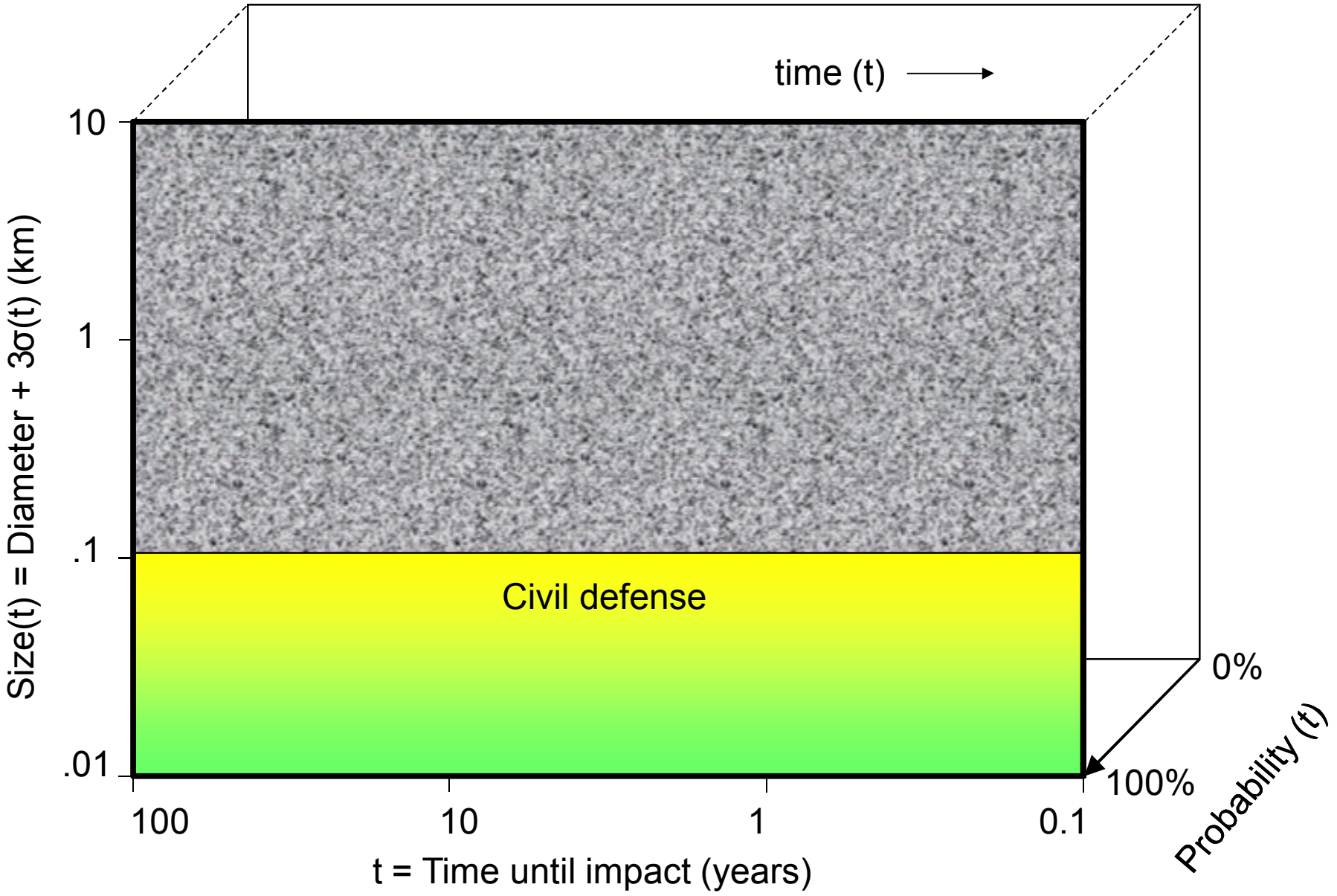


"Decision surfaces" can also be plotted in this volume

Decision support requires three dimensions



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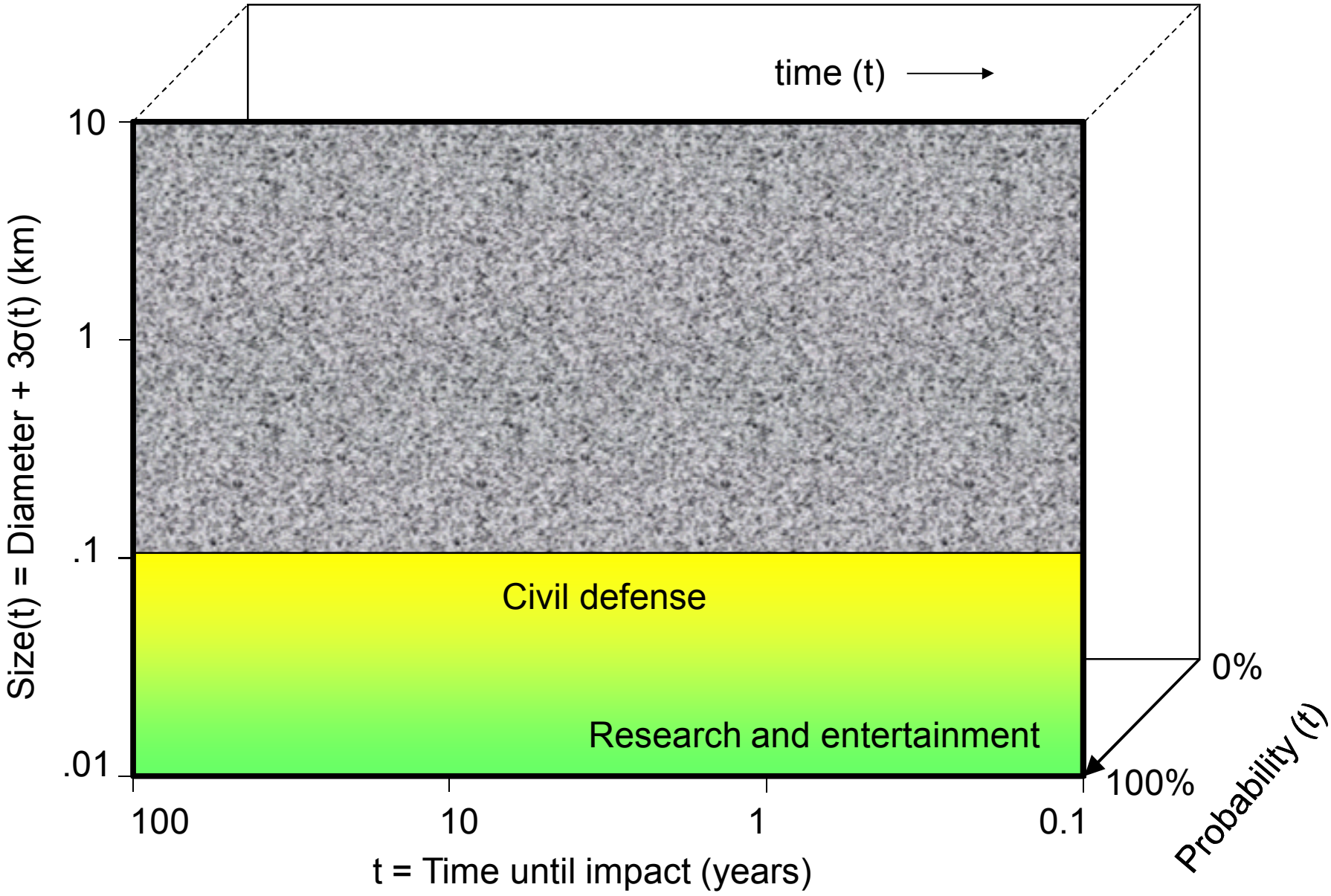

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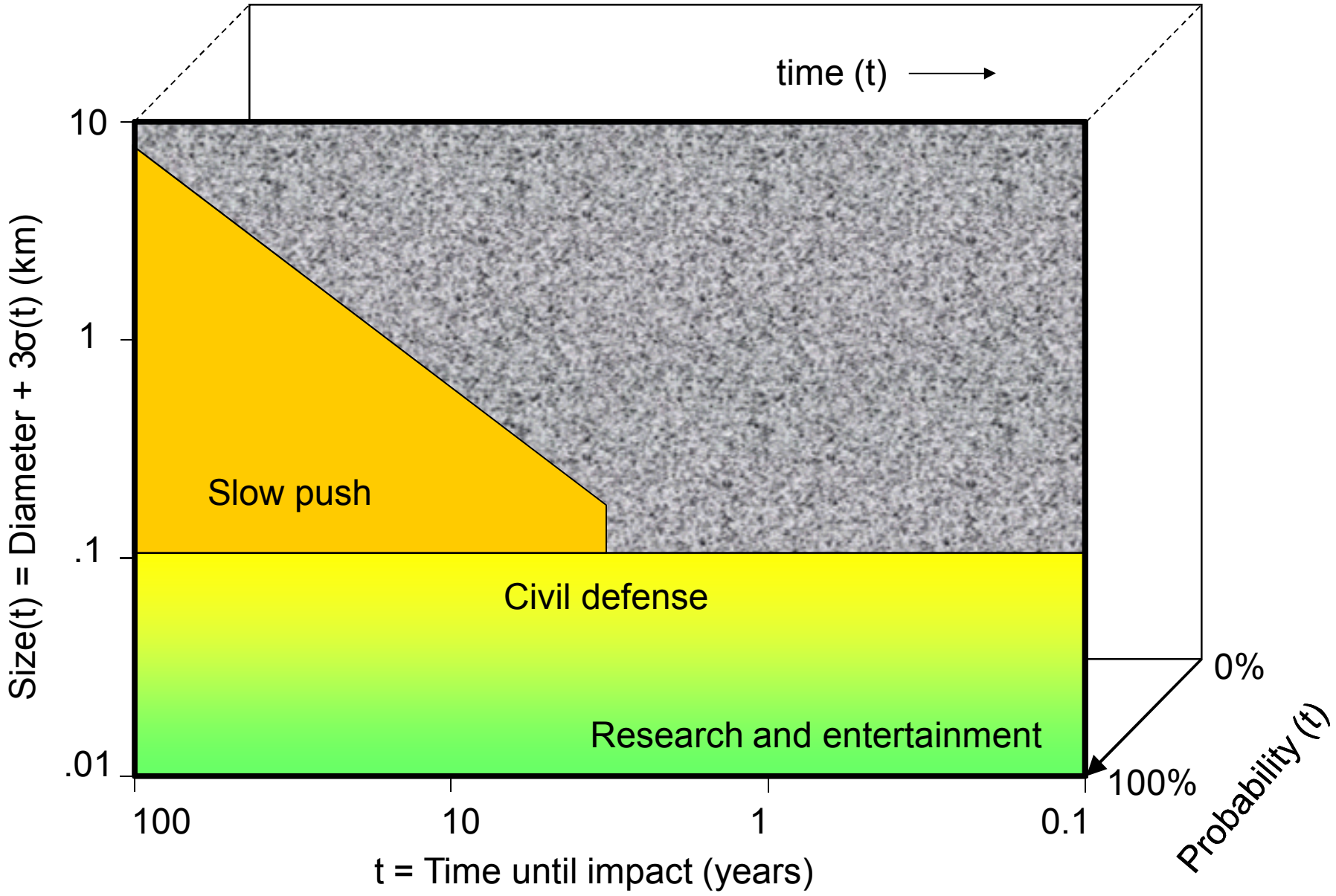

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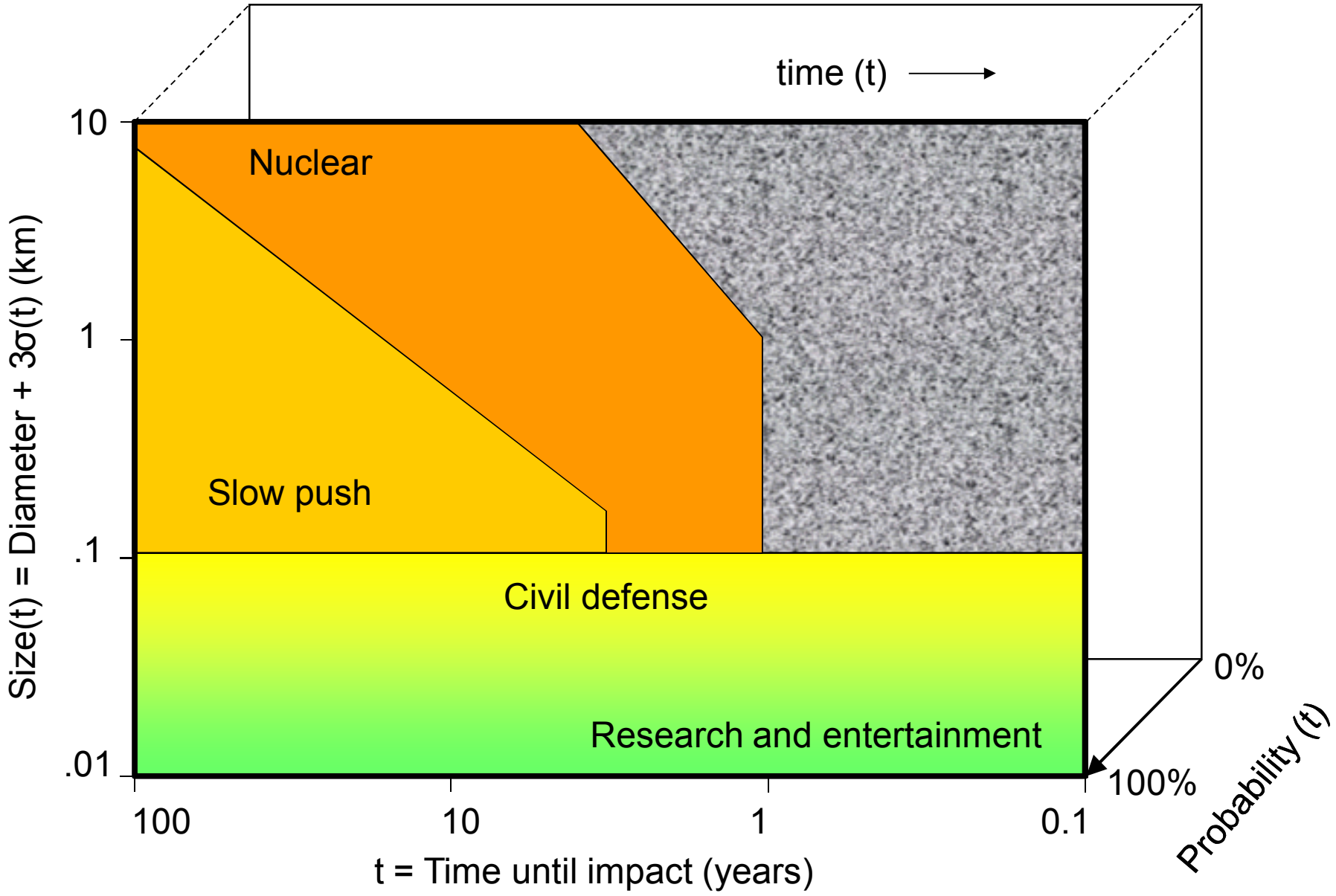

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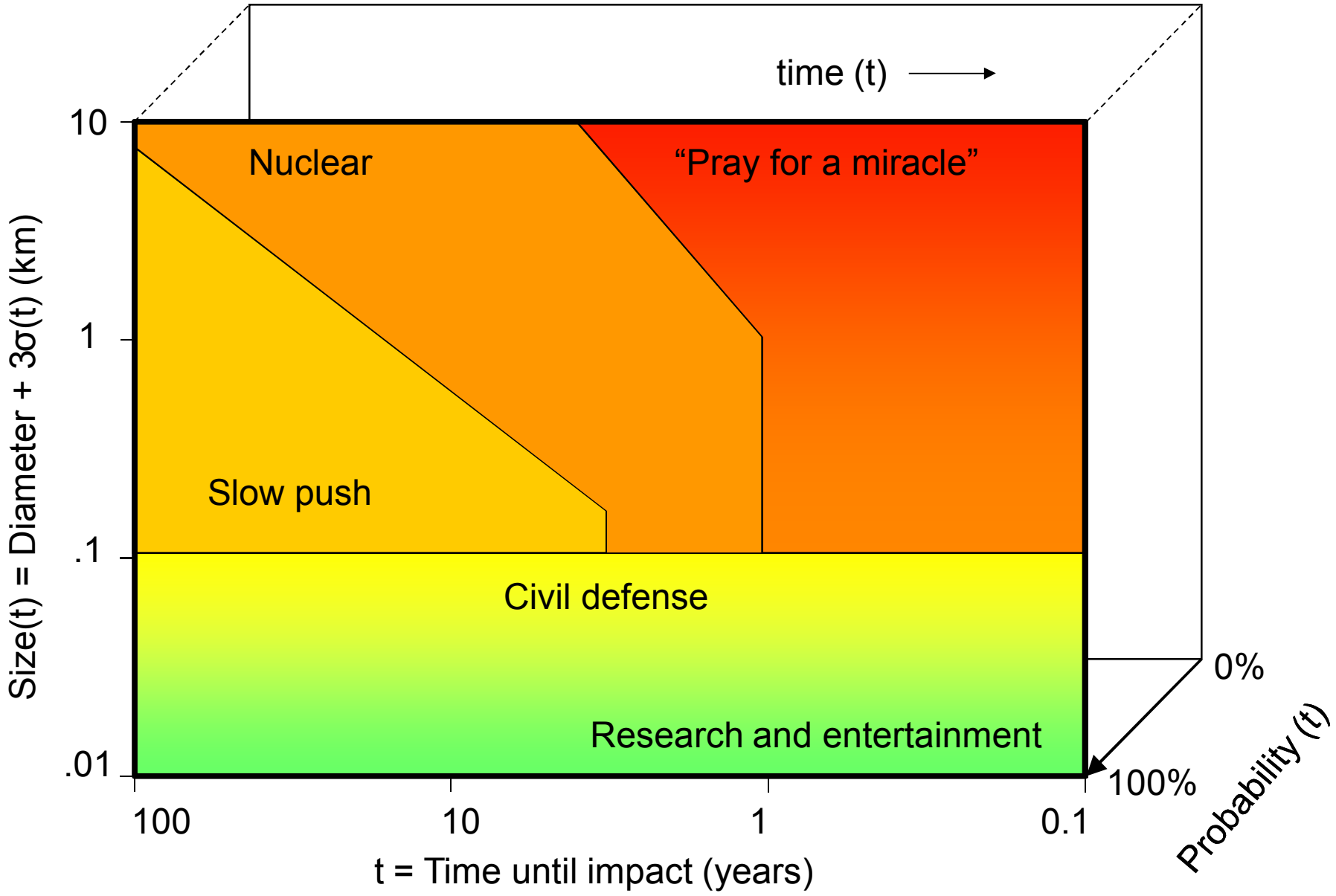

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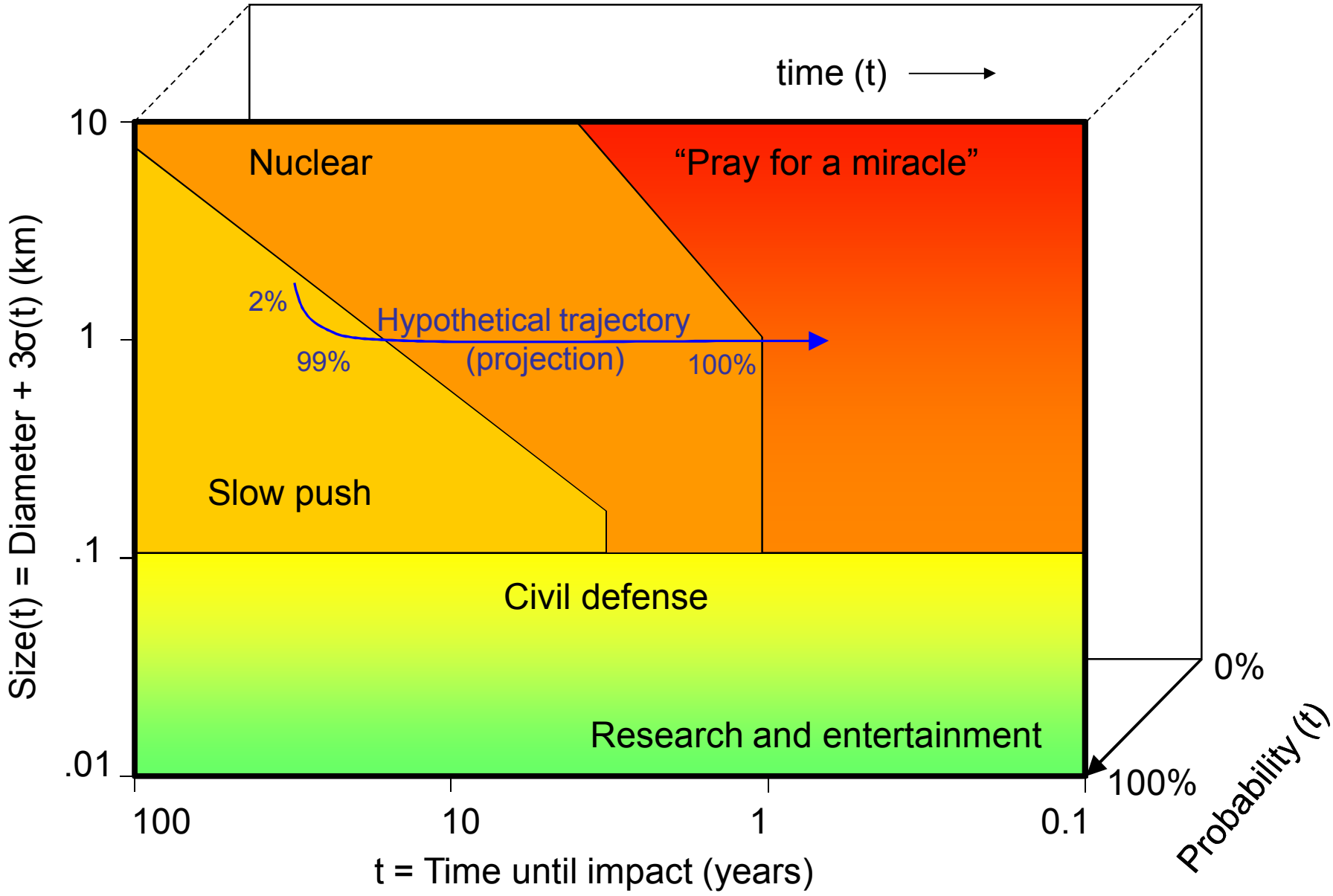

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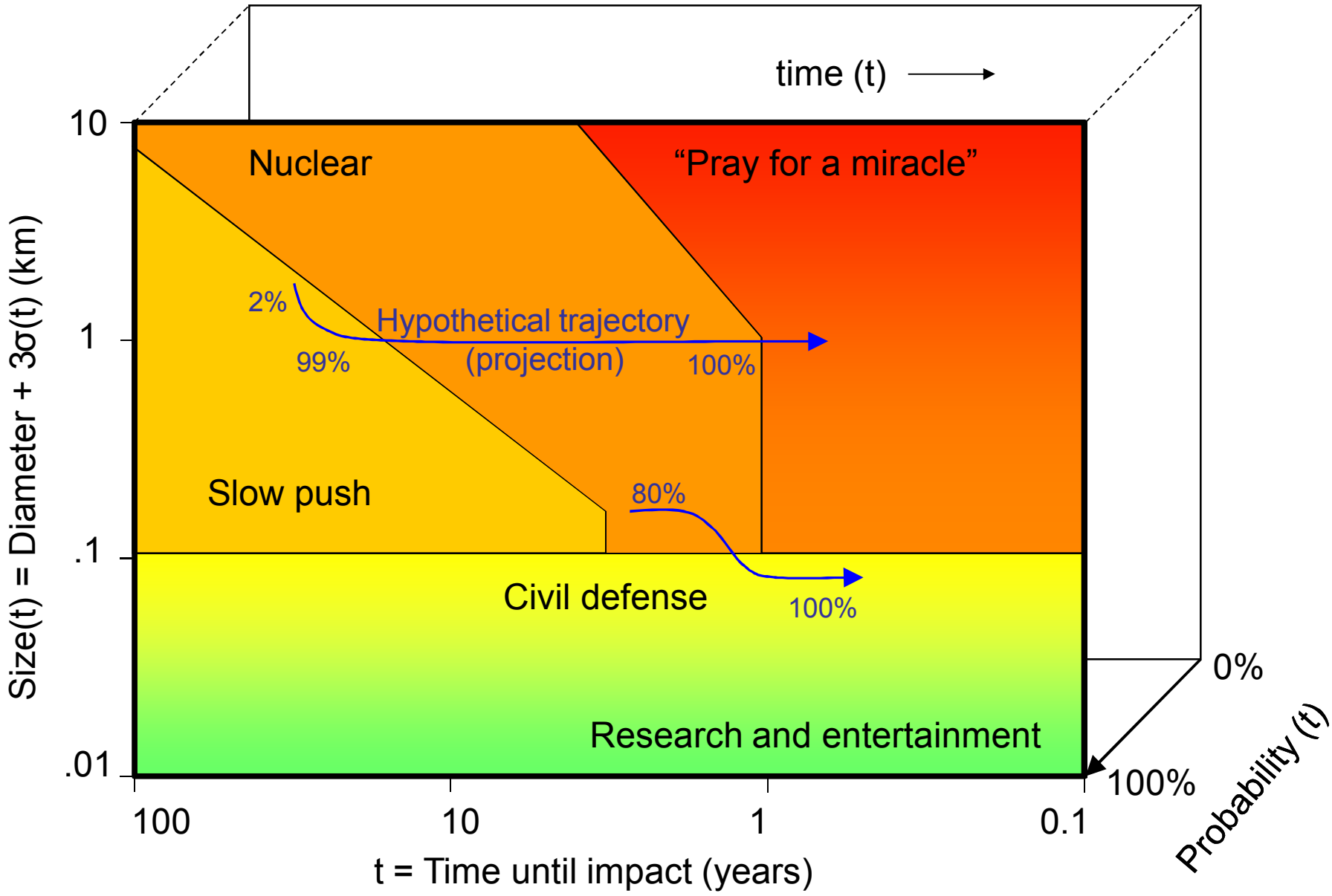

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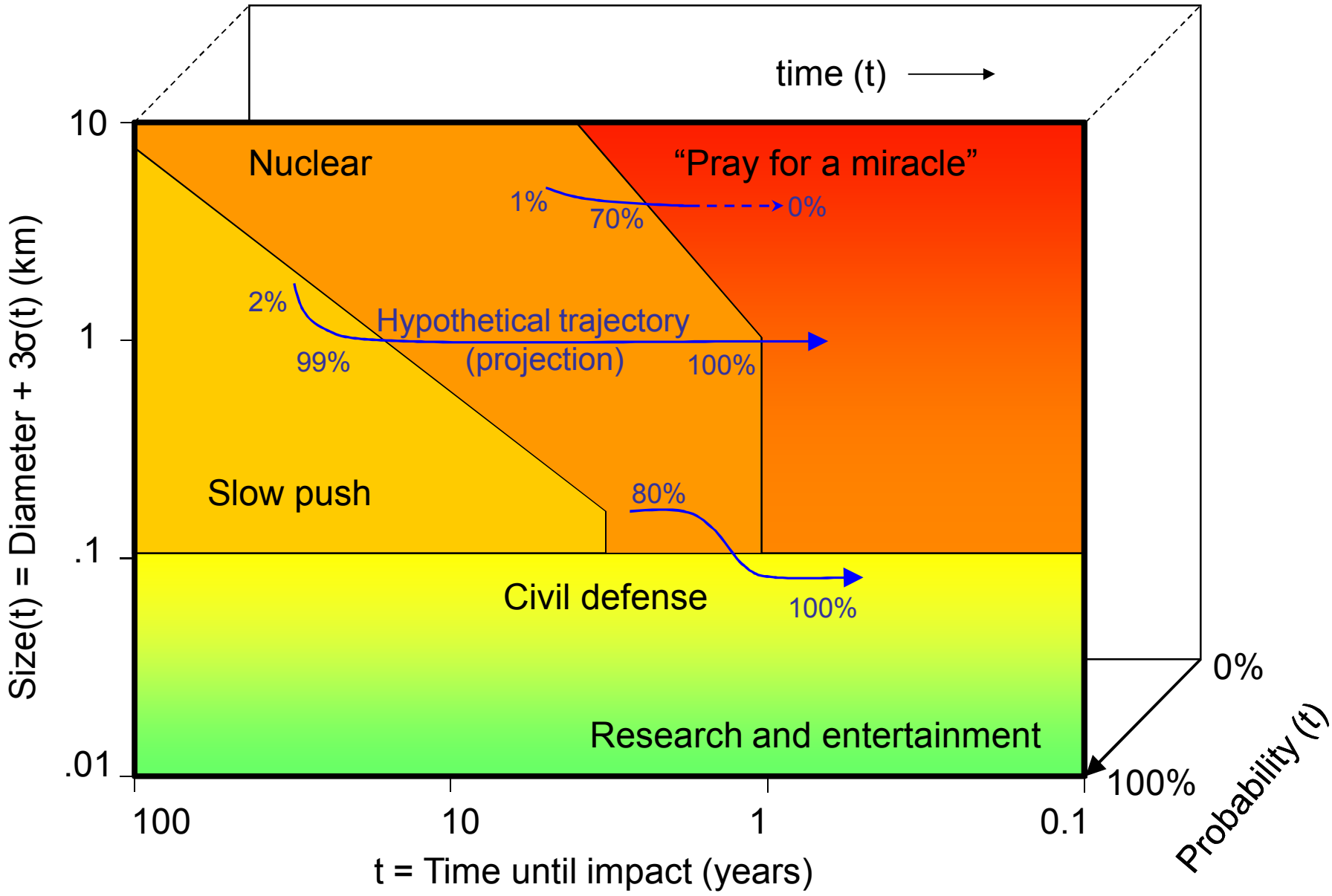

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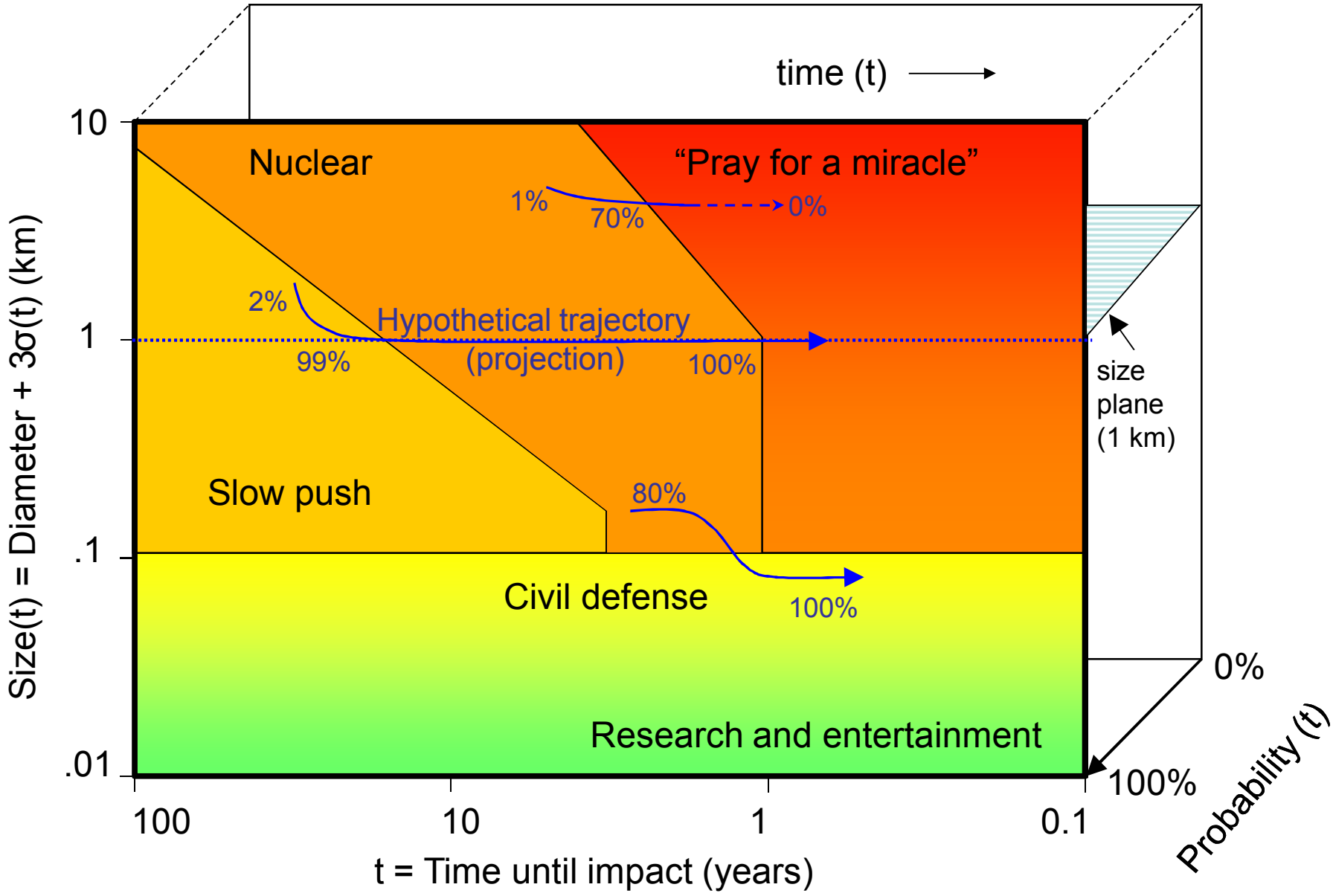

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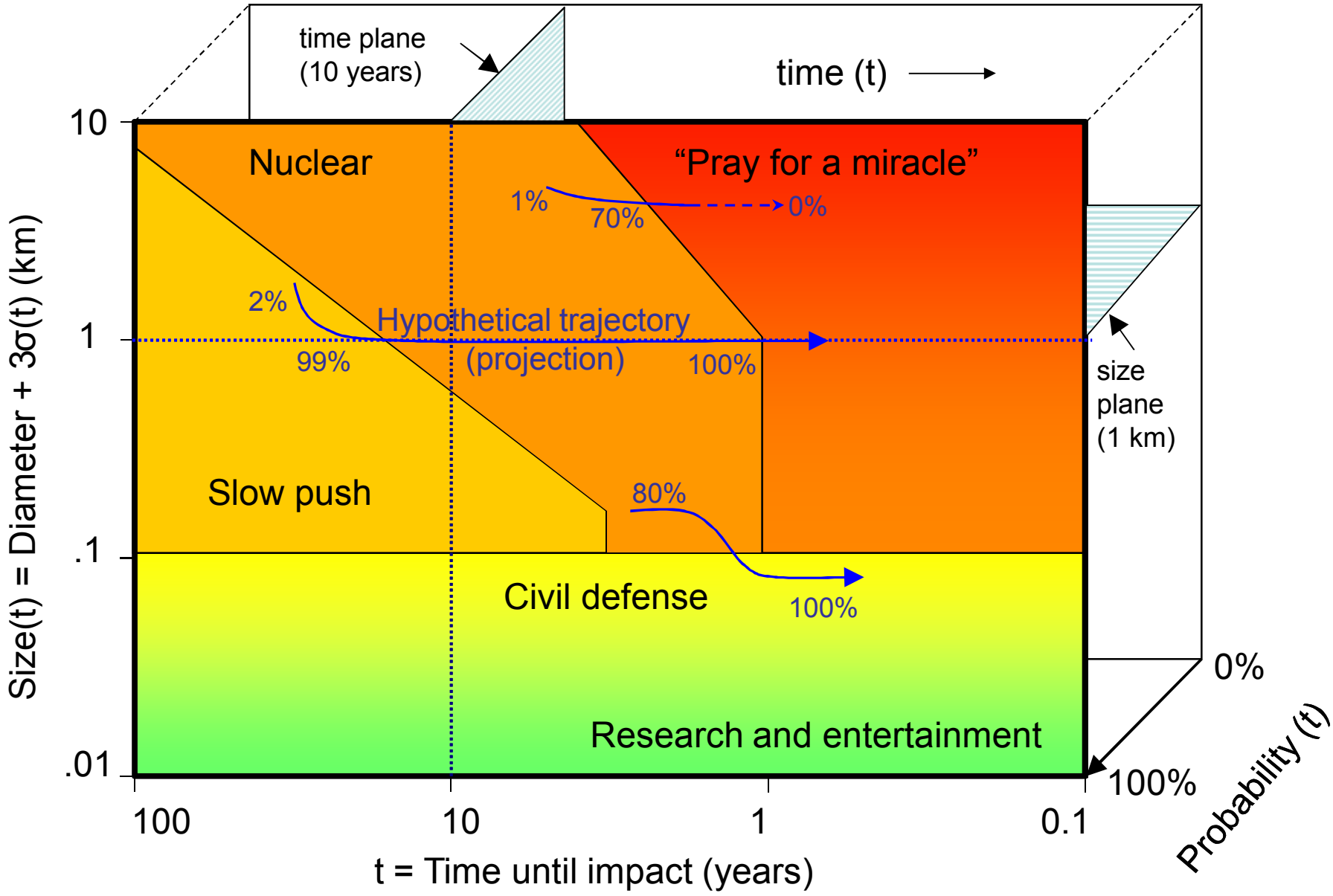

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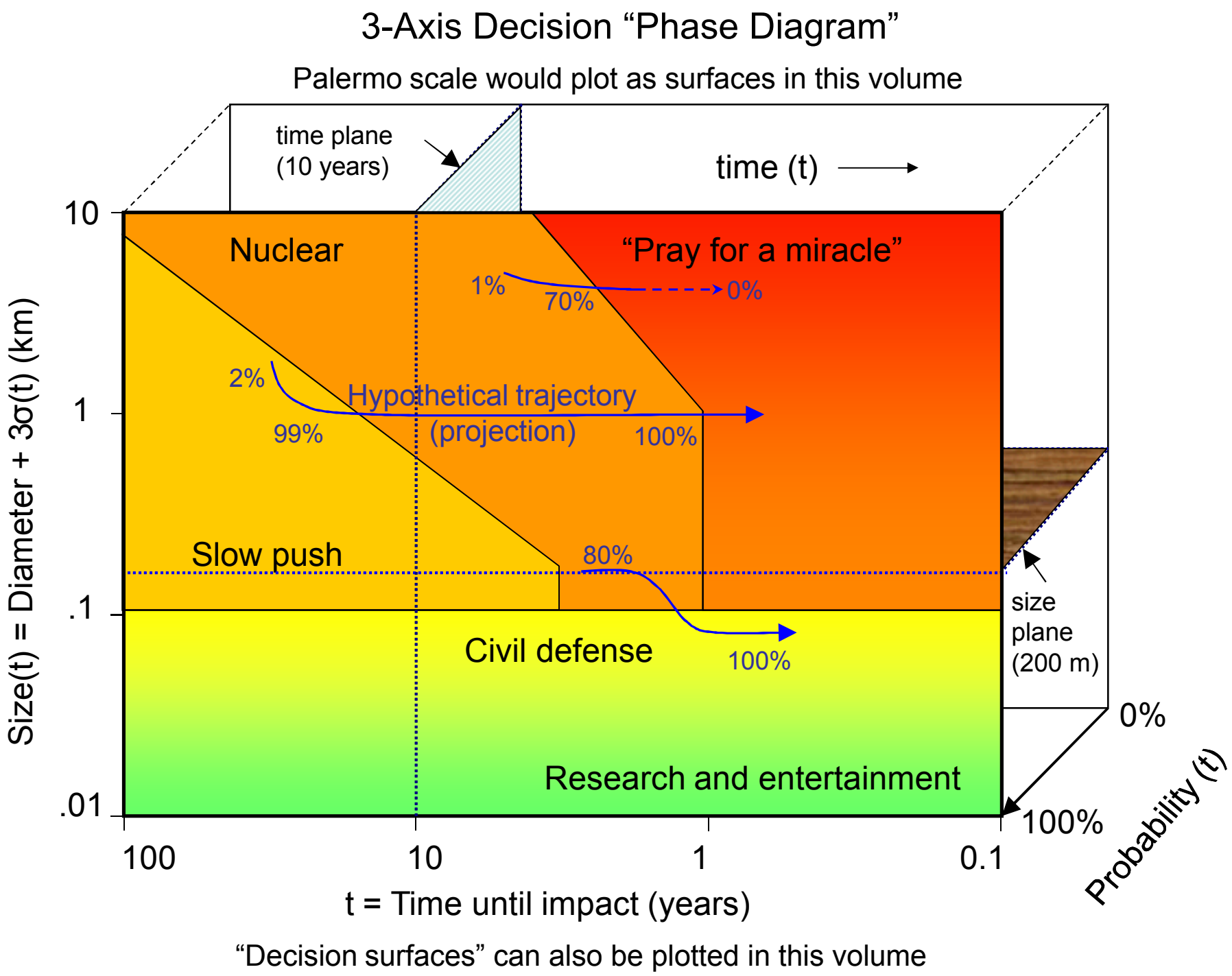
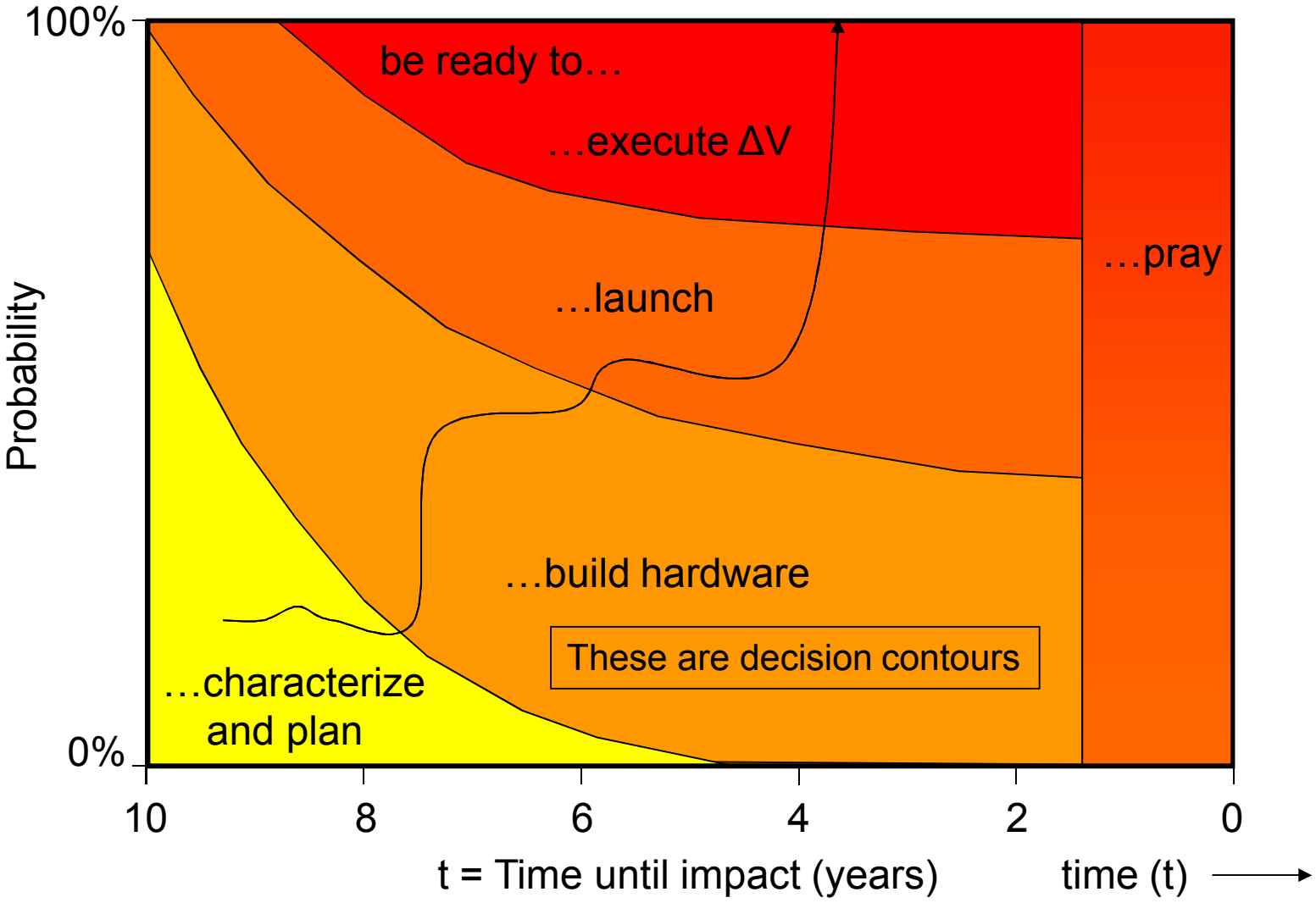

3-Axis Decision "Phase Diagram"
Palermo scale would plot as surfaces in this volume
time plane
(10 years)
time (t)
10
1
.1
.01
Size(t) = Diameter + 3σ(t) (km)
Nuclear
"Pray for a miracle"
1%
70%
0%
2%
99%
Hypothetical trajectory
(projection)
100%
Slow push
80%
Civil defense
100%
size
plane
(200 m)
0%
Research and entertainment
100%
Probability (t)
100
10
1
0.1
t = Time until impact (years)
"Decision surfaces" can also be plotted in this volume

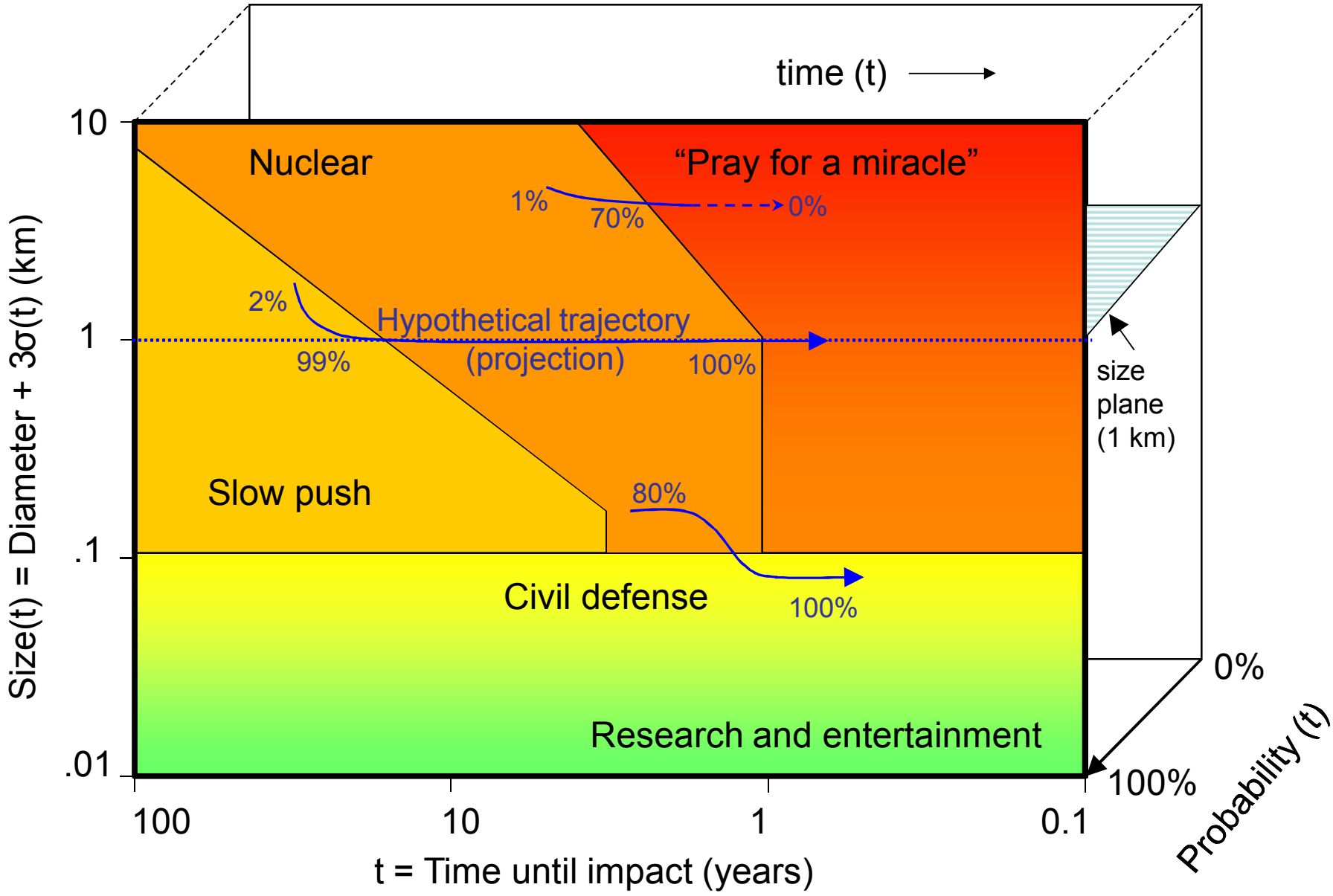
Constant-Size Plane (d+3σ = 200 m)

Palermo scale can be plotted as contours in this plane



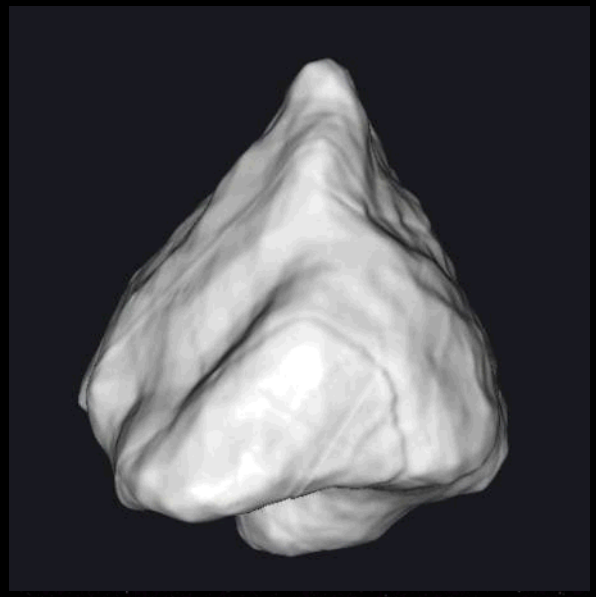
Intersection of decision surfaces with this plane creates decision contours

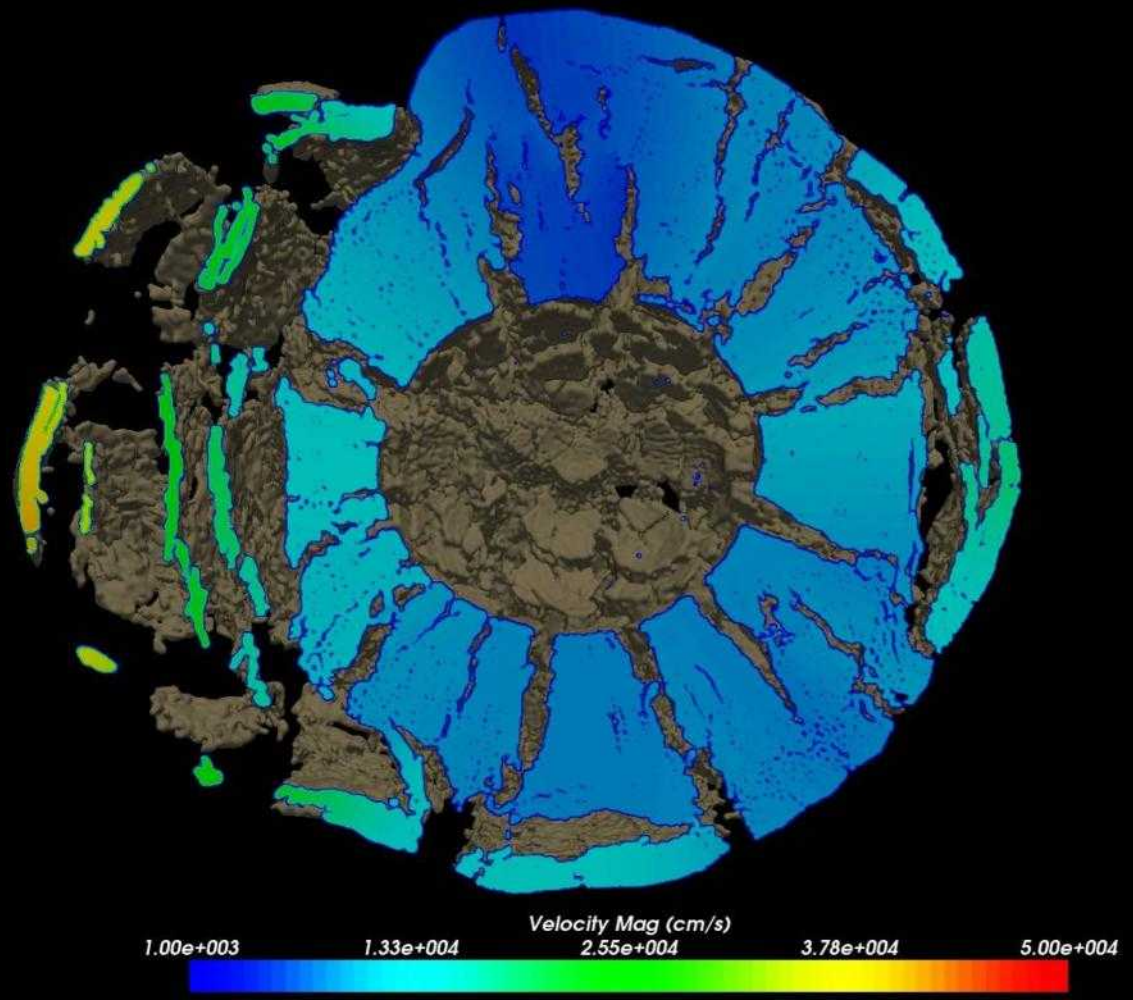
Decision support requires three dimensions



"Decision surfaces" can also be plotted in this volume

Planetary defense decisions should be pre-meditated!





"Exploding asteroid" provided shake-down problem for Red Storm supercomputer and scientific visualization tools