

Compressive Signal Strength Mapping

in Various Fading Environments

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Robots Need Wi-Fi Signal to Talk

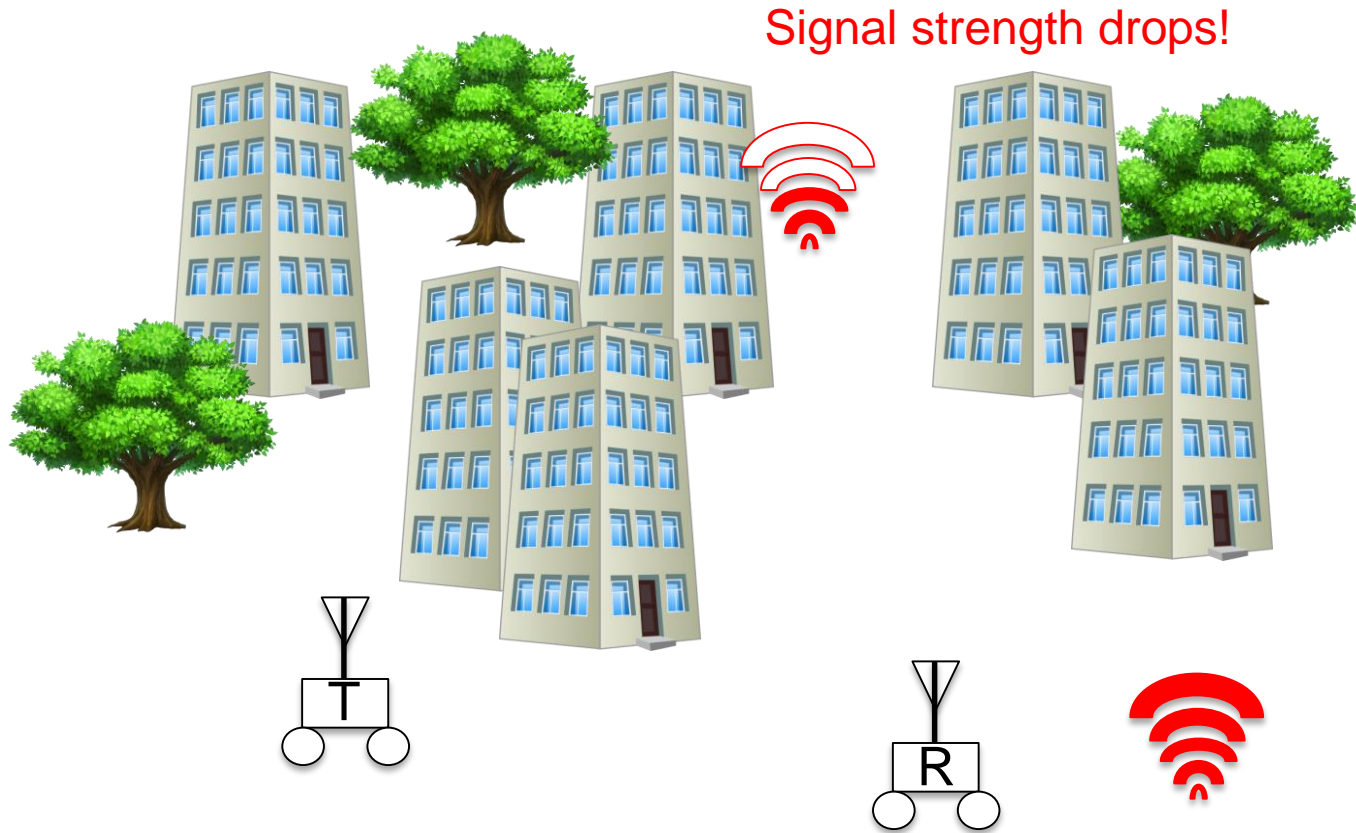


Robots Rely on Signal Strength

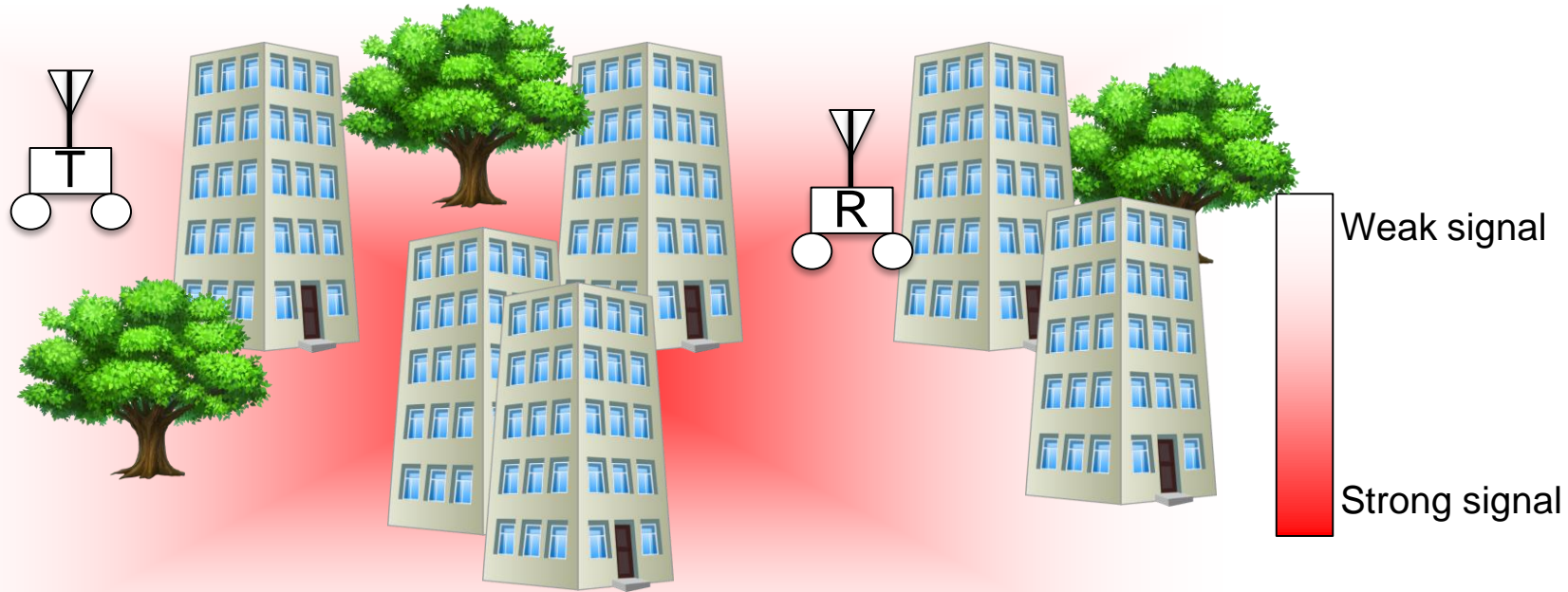
No drop in signal = no fading



Obstacles Fade the Signal



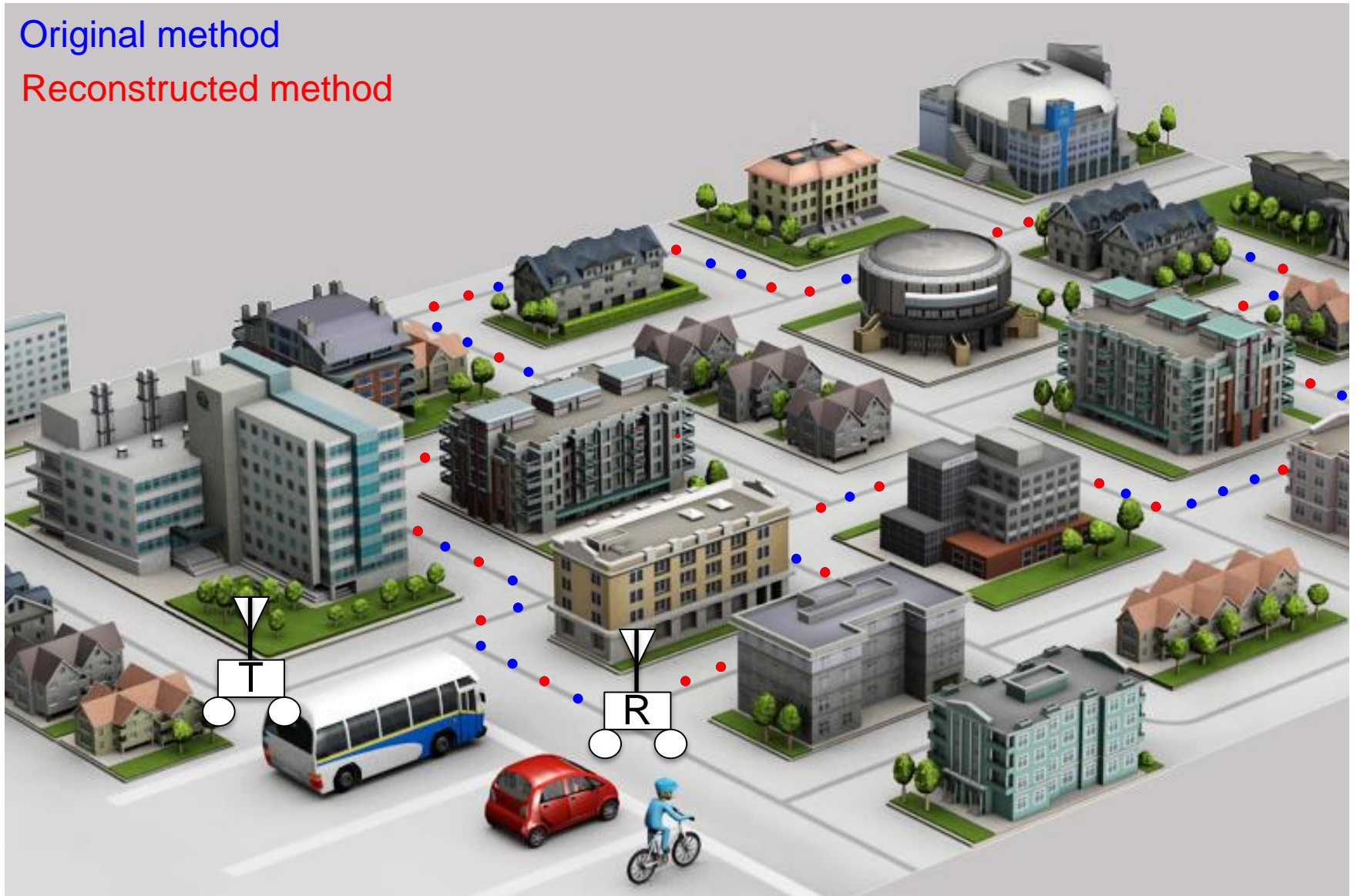
Hypothetical 3D Signal Map



Hypothetical 3D Map of a City

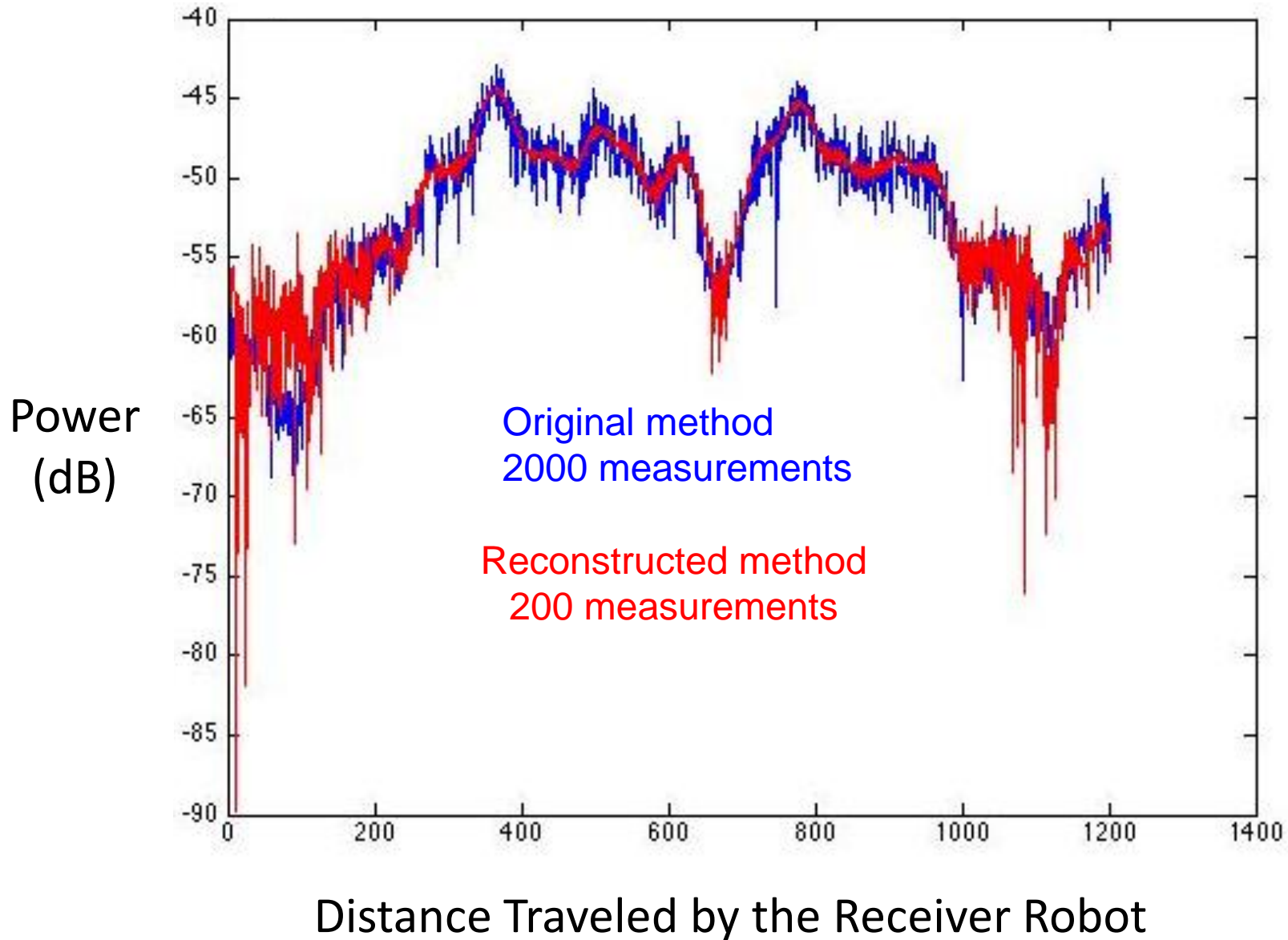
Original method

Reconstructed method

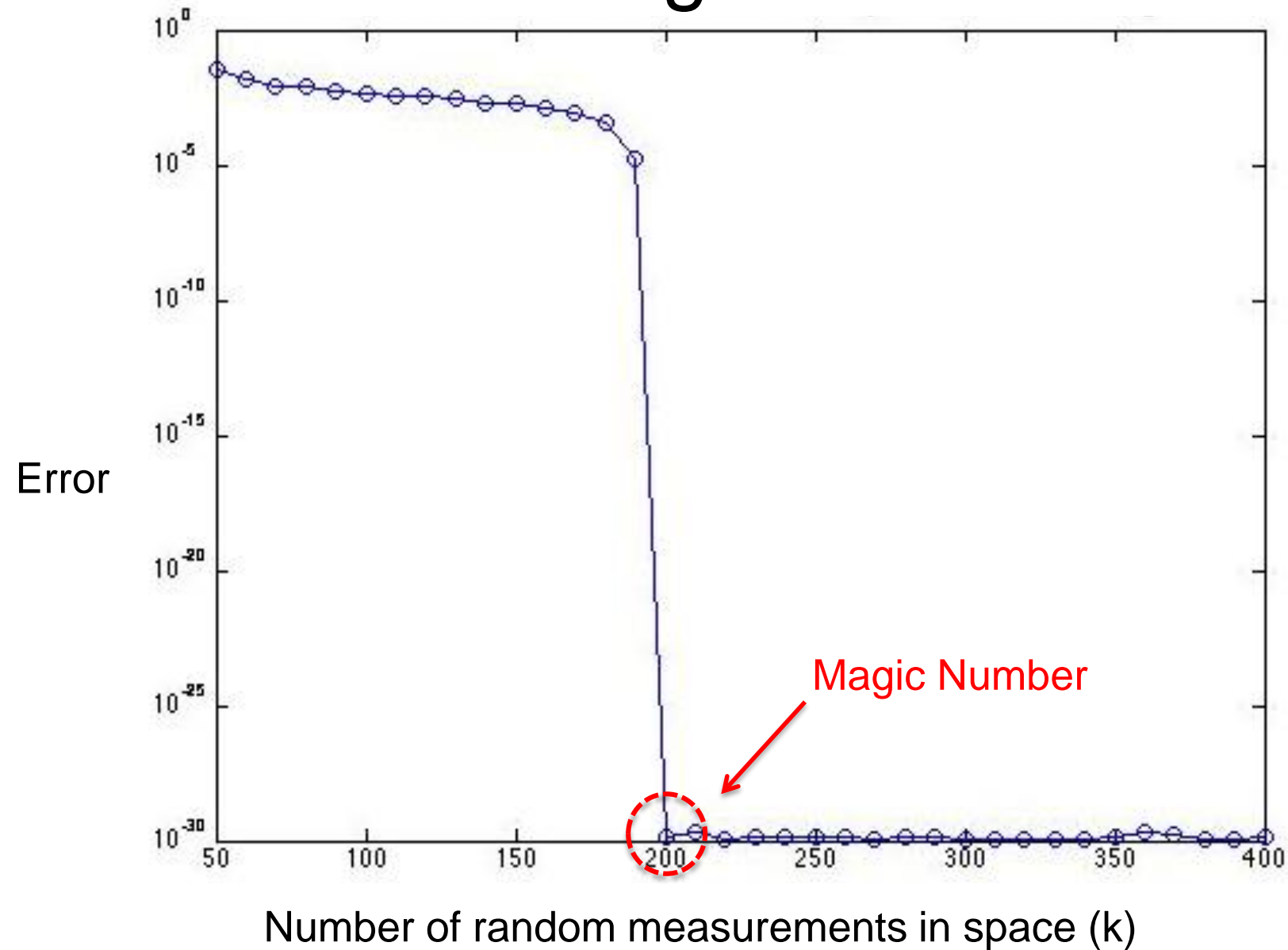


Is this accurate?

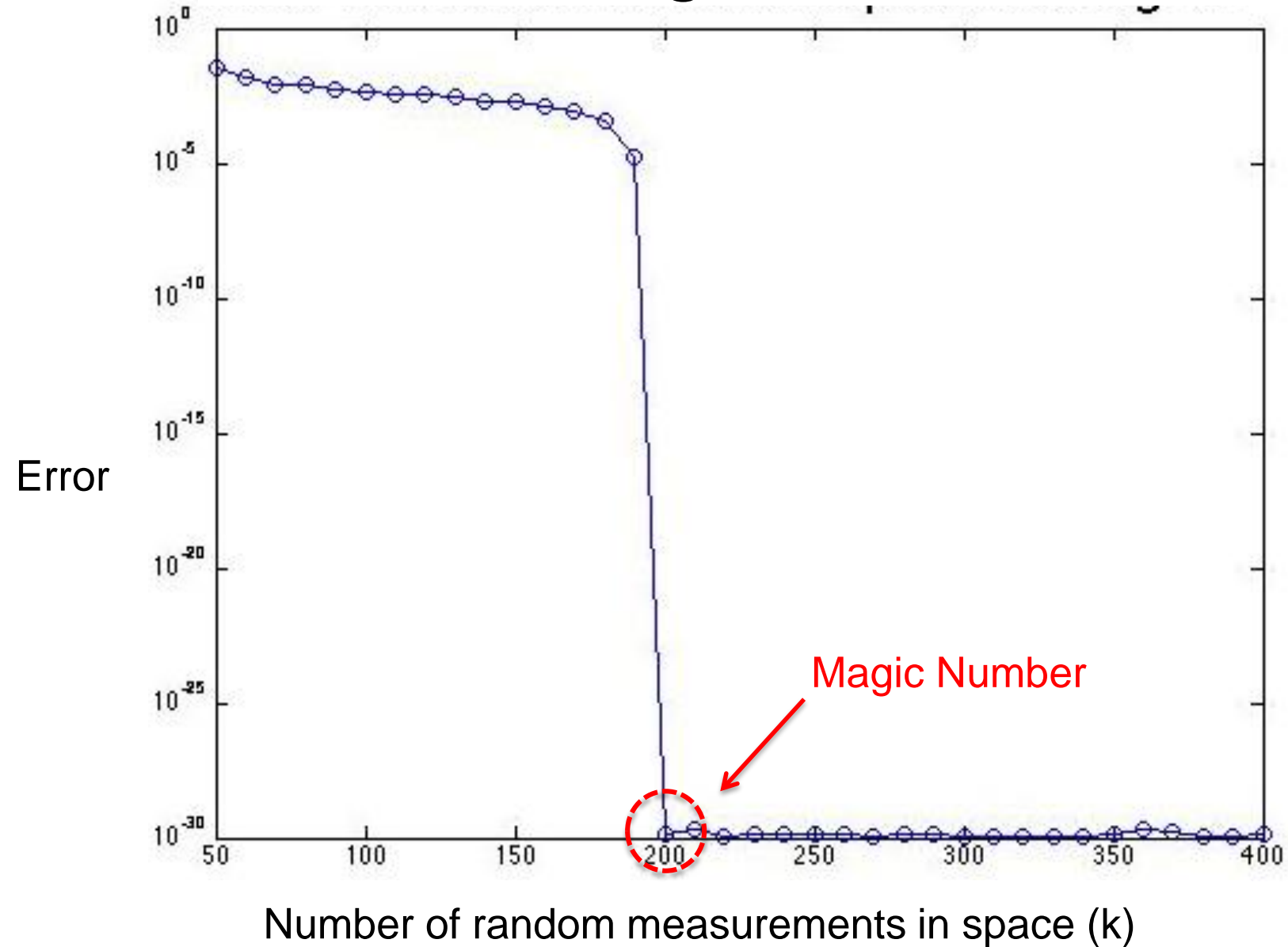
Environment Similar to UC Santa Barbara



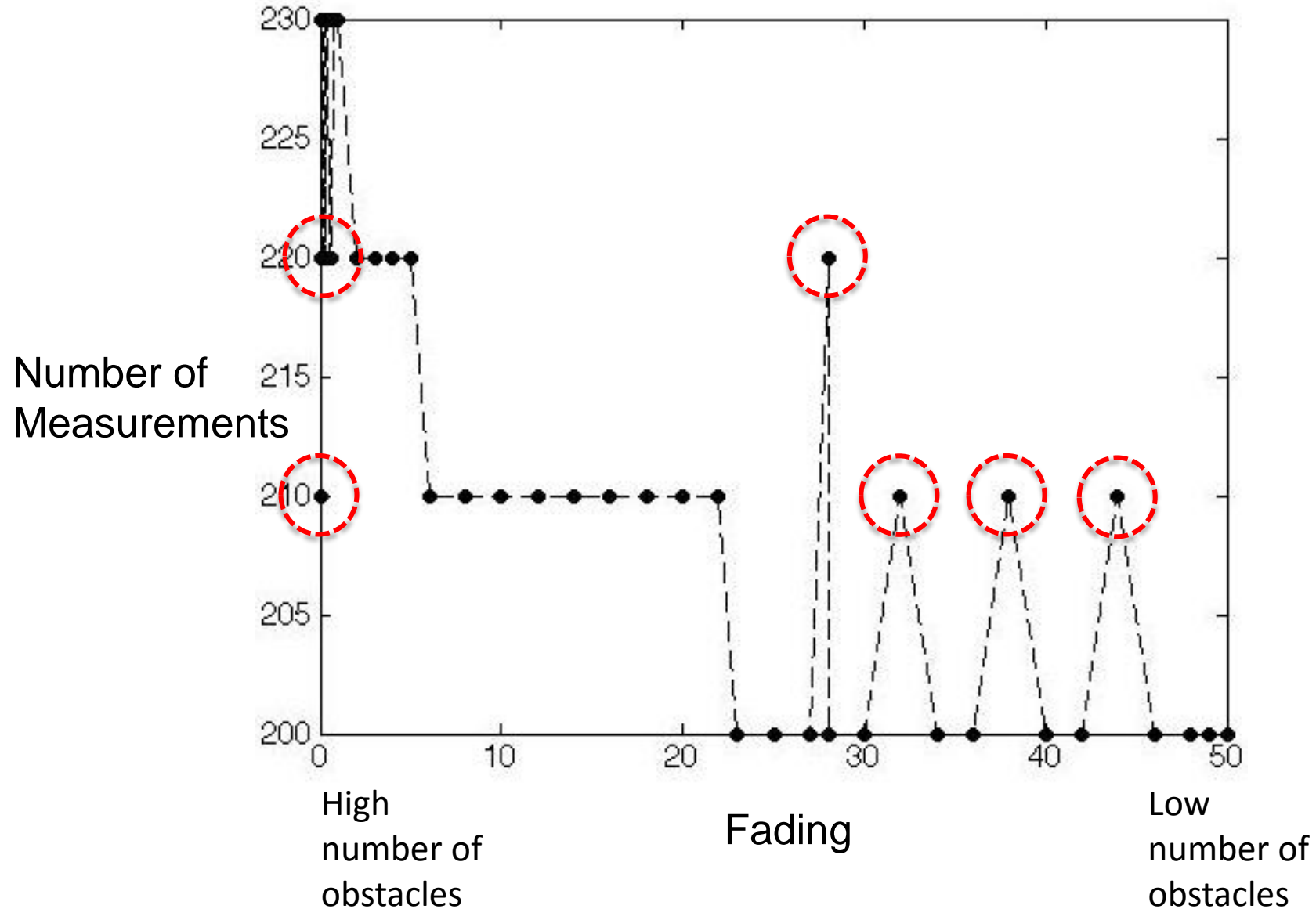
Every Environment has its Magic Number



Every Environment has its Magic Number



Found the Magic Number for Various Environments



Overall the Research was Successful

- In general the more obstacles the more measurements needed.
- Signal mapping assists other applications.
e.g., search and rescue, see through wall imaging with only Wi-Fi, etc.



Leading us to Explore New Possibilities in the Future



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