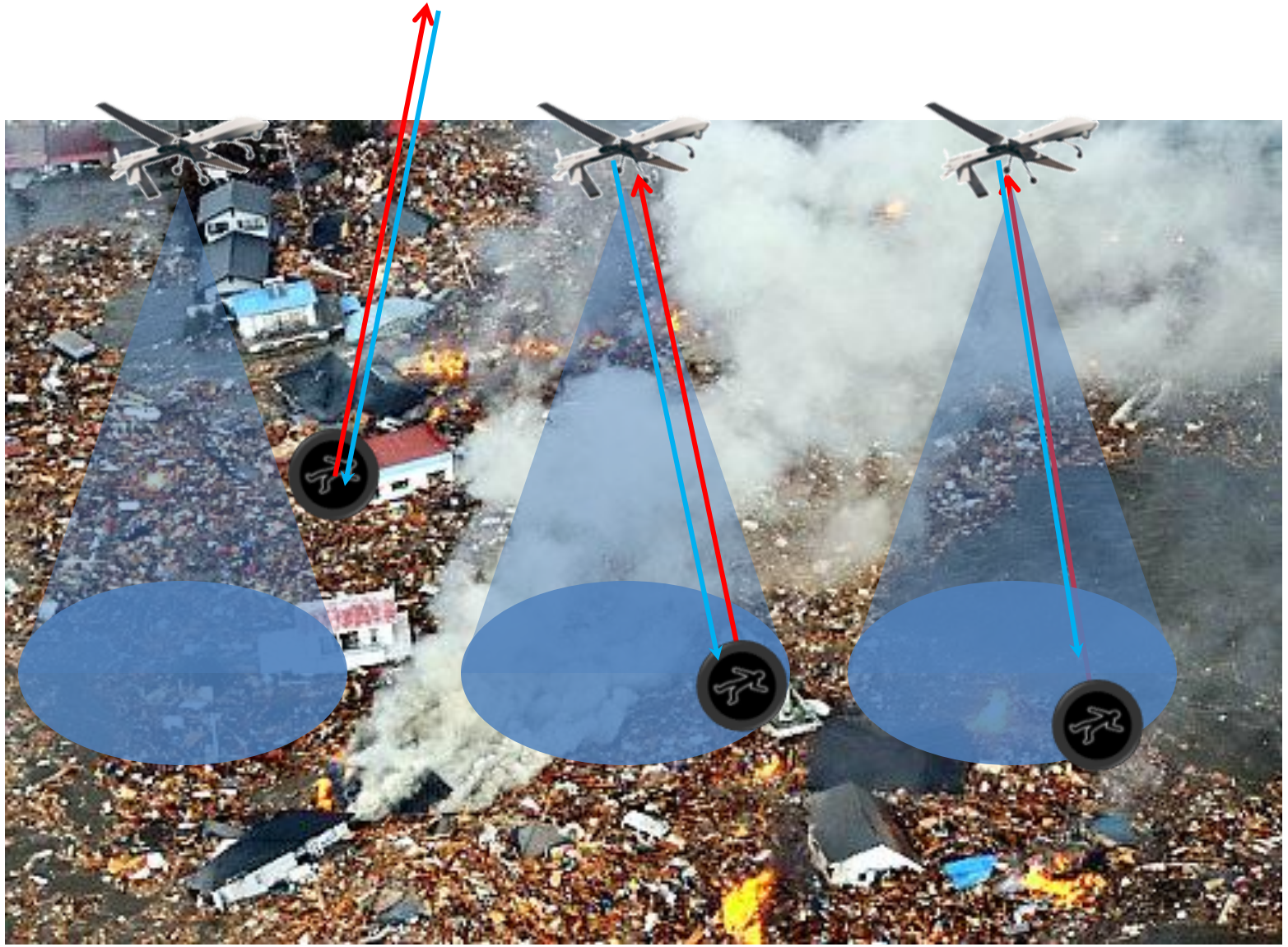
HAPS & UAV

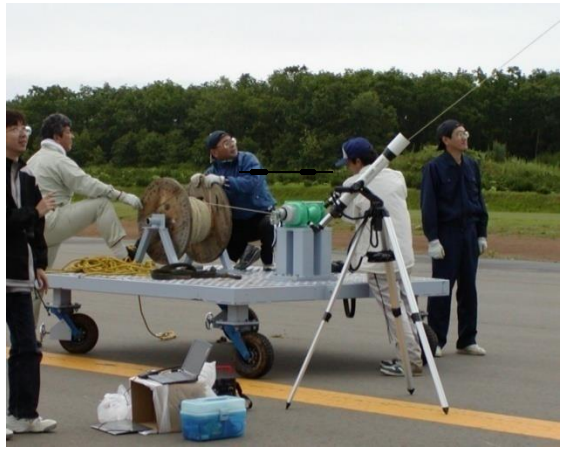
通信

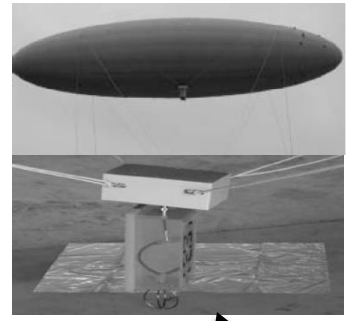
UAV（無人機）による行方不明者探索



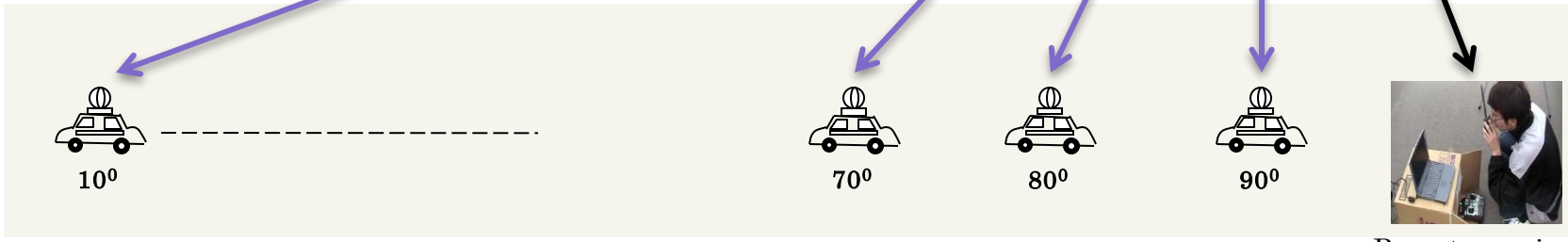
Experiment: Statistical Model

HAPS





Balloon control

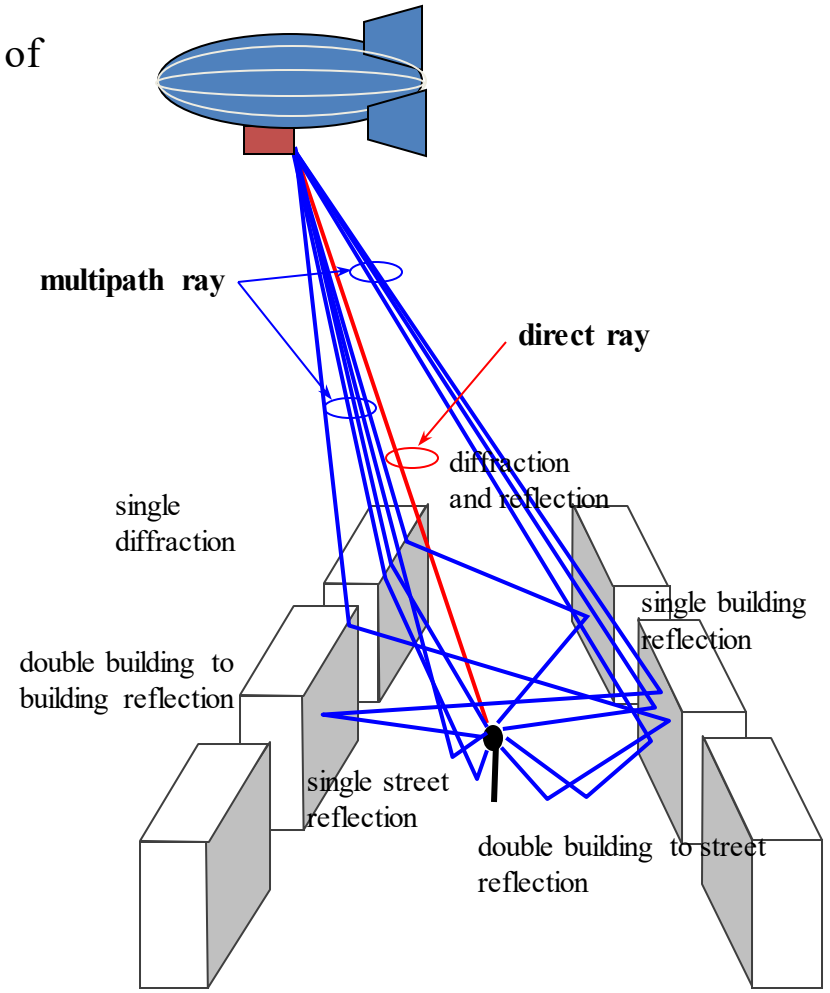


Remote carrier control machine

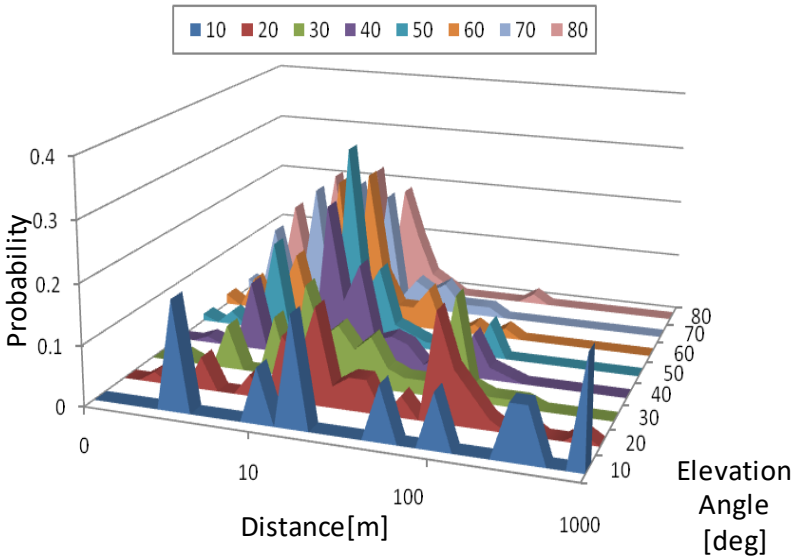
Ray Tracing Method

- Basic concept
  - Geometrical optic (GO) and uniform theory of diffraction (UTD)
- Rays categories
  - 9 ray categories involved in the simulation
    - direct ray
    - single reflection from building
    - single reflection from street
    - double reflection from building to street
    - double reflection from building to building
    - diffraction from building rooftop
    - diffraction from rooftop and single reflection from building
    - diffraction from rooftop and single reflection from street
    - diffraction from rooftop and double reflection from building to street
- Electrical parameters

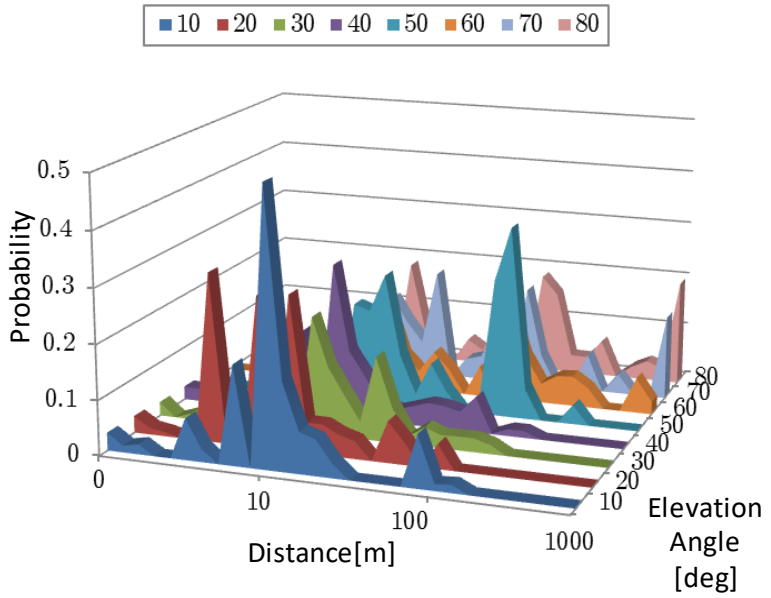
	ε_r	$\sigma\,[\Omega^{-1}m^{-1}]$
Building	3	0.005
Street	15	7



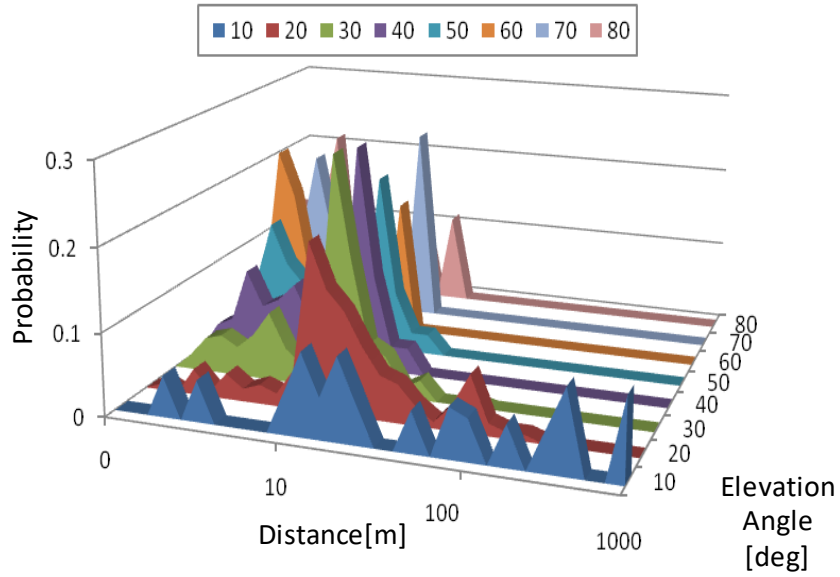
Analytical Results



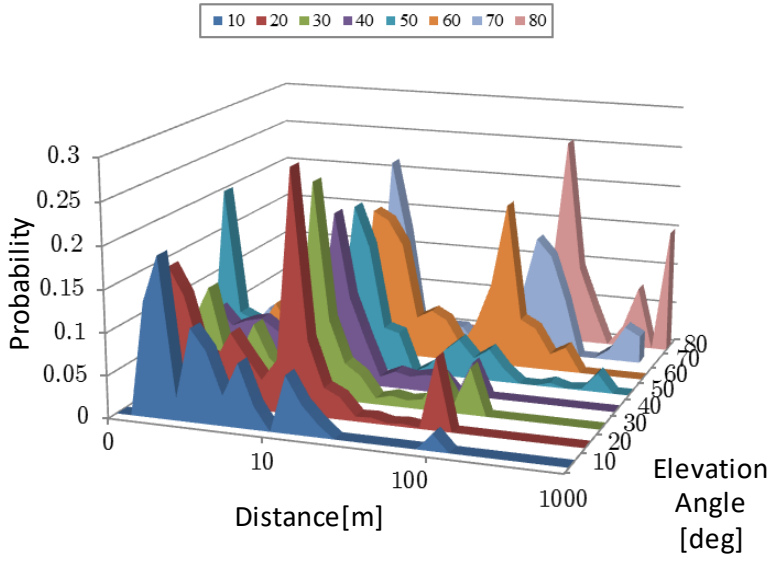
Distribution of SCD, Shinjuku, D=15 m, ϑ=60^0



Distribution of LCD, Shinjuku, D=15 m, ϑ=30^0

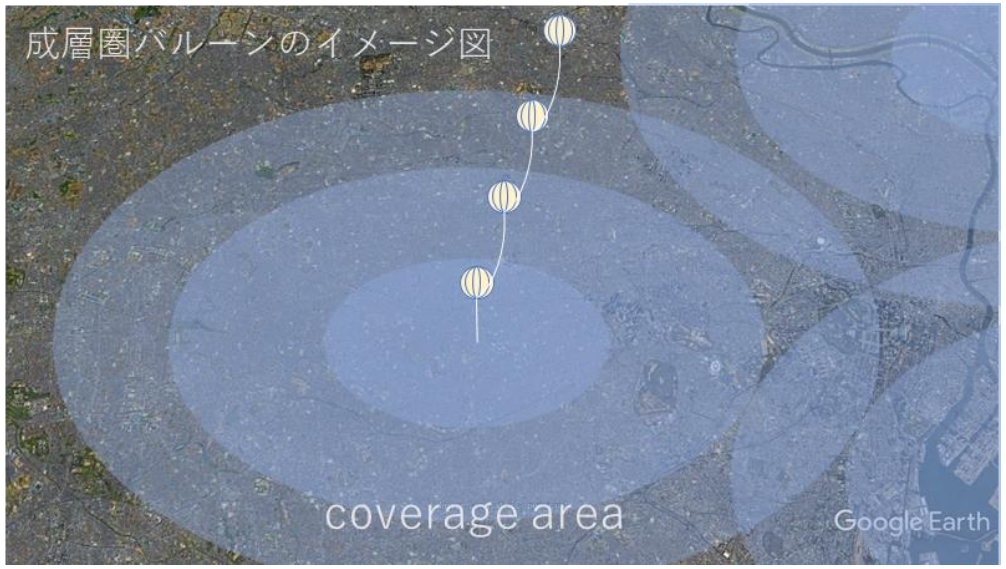


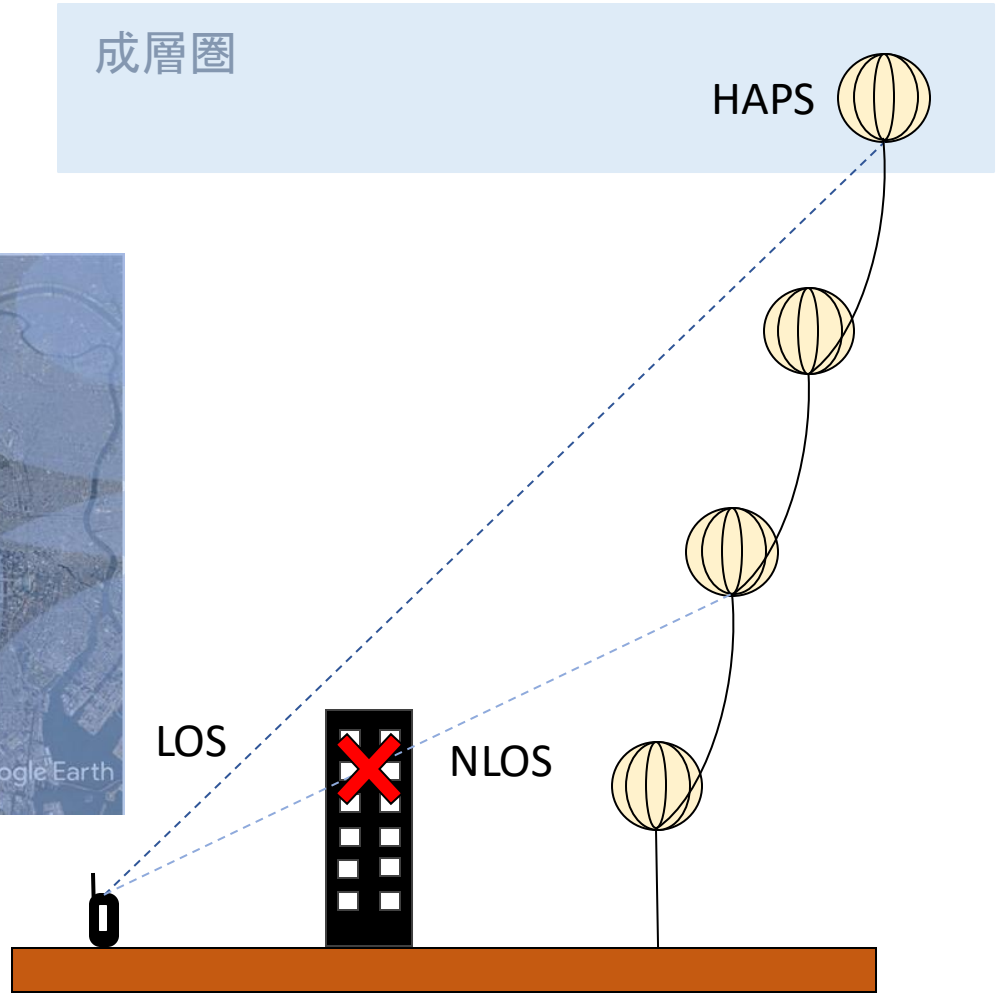
Distribution of SCD, Kiryu, D=15 m, ϑ=60^0

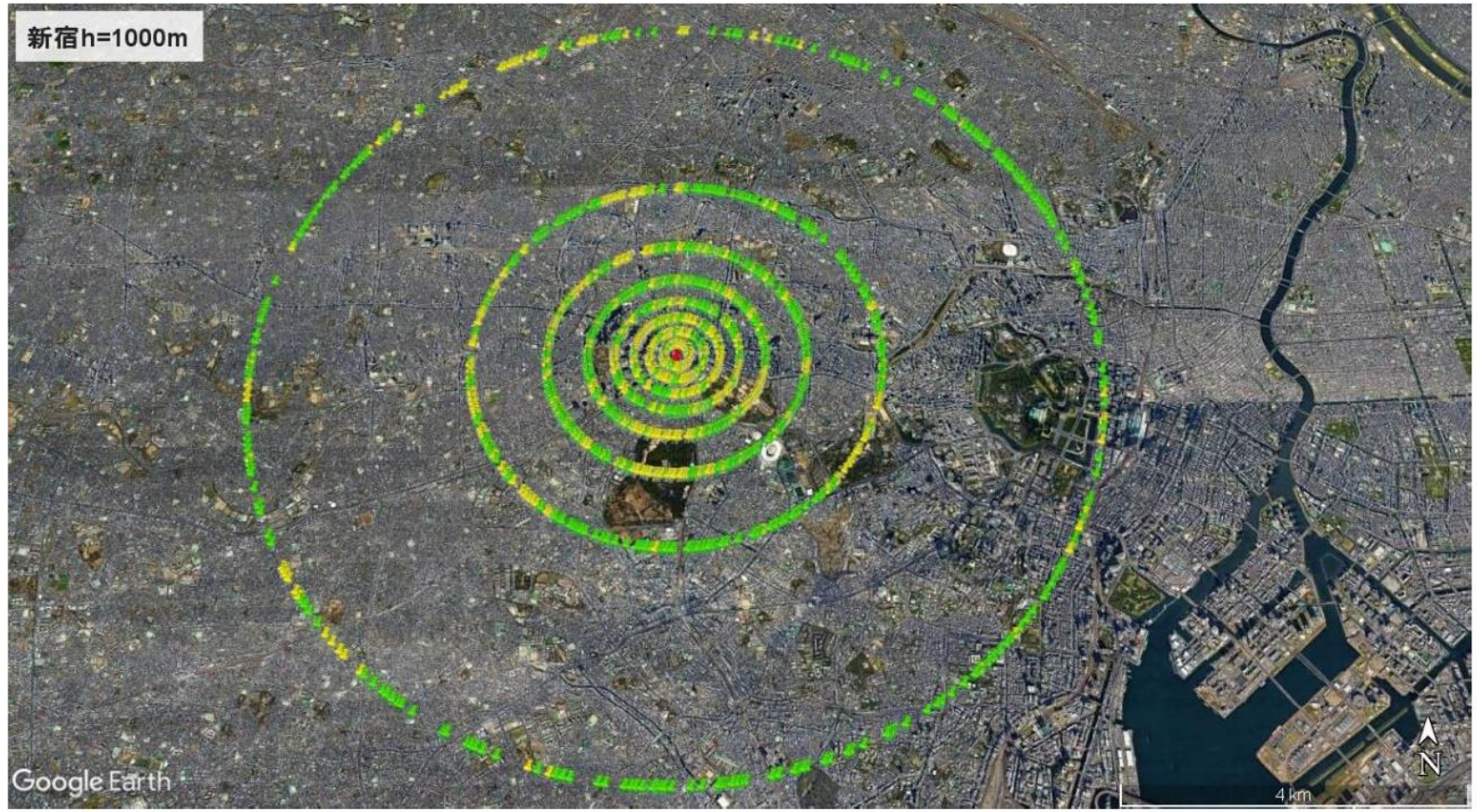


Distribution of LCD, Kiryu, D=15 m, ϑ=30^0

係留気球に基づくHAPS






新宿h=1000m
Google Earth
4 km
N