

LIST OF SYMBOLS

a	: Semi-major axis
A	: Coverage area
B	: Bandwidth
C	: Channel capacity
C/N	: Carrier-to-Noise Ratio
D	: Pass duration
d	: Satellite distance from Earth center
d_{max}	: Max ground station to satellite distance
e	: Eccentricity
El	: Elevation angle
f	: Phasing factor
F_N	: Noise factor
$FSPL$	: Free Space Path Loss
G	: Universal gravitational constant
G_{RX}	: Receiver Antenna Gain
h	: Altitude
i	: Inclination
I	: Satellite index within orbital plane
J_2	: Earth's second zonal harmonic coefficient
k_B	: Boltzmann's constant
k_{plane}	: Plane index
λ	: Sub-point longitude
Lon_{final}	: Final longitude of ground track
$Lon_{initial}$	: Initial longitude of ground track
M	: Mass of Earth
$M_{current}$	: Updated mean anomaly
M_i	: Value of the i-th angle
$M_{initial}$	: Initial mean anomaly
M_{J2}	: Rate of change of mean anomaly due to J_2 effect
M_0	: Initial angle value
n	: Satellite's mean motion
n_{total}	: Total (perturbed) mean motion
Ω	: Angular separation between orbital planes
Ω_0	: Right ascension of the ascending node

$\Omega_{current}$	: Updated RAAN
$\Omega_{initial}$	: Initial RAAN
p_{rectum}	: Semi-latus rectum of the orbit
p_{planes}	: Number of orbital planes
Φ	: Sub-point latitude
π	: Pi
P_{Noise}	: Noise Power
P_{RX}	: Received Power
r	: Distance from Earth's center to satellite
$RAAN_{Spread}$	: Total RAAN spread
R_c	: Coverage radius
R_e	: Radius of Earth
R_f	: Ground coverage radius
s	: Number of satellites in each orbital plane
separation Value	: Value defining separation
SNR_{linear}	: Signal-to-Noise Ratio (linear)
spacingRad	: Angular distance in radians
$t_{elapsed}$	: Time elapsed
$t_{satellites}$	: Total number of satellites in constellation
T	: Orbital period
T_{sid}	: Earth's sidereal period
V	: True anomaly
$v_{j,k}$	: True Anomaly of j-th satellite in k-th plane
v_{orbit}	: Orbital velocity
α	: Coverage angle
β	: Antenna beamwidth
$\Delta\theta_{earth}$	: Angle traveled by Earth
$\Delta\theta_{sat}$	: Total angle traveled by satellite
μ	: Earth gravitational parameter
φ	: Angle of coverage at Earth's center
ω_e	: Earth's sidereal rotation speed
ω_{earth}	: Earth rotation rate
$\omega_{current}$	: Updated argument of perigee
$\omega_{initial}$	: Initial argument of perigee
ω_{rel}	: Relative ground-track angular speed
$\dot{\Omega}$	: Rate of change of RAAN
$\dot{\omega}$	: Rate of change of Argument of Perigee