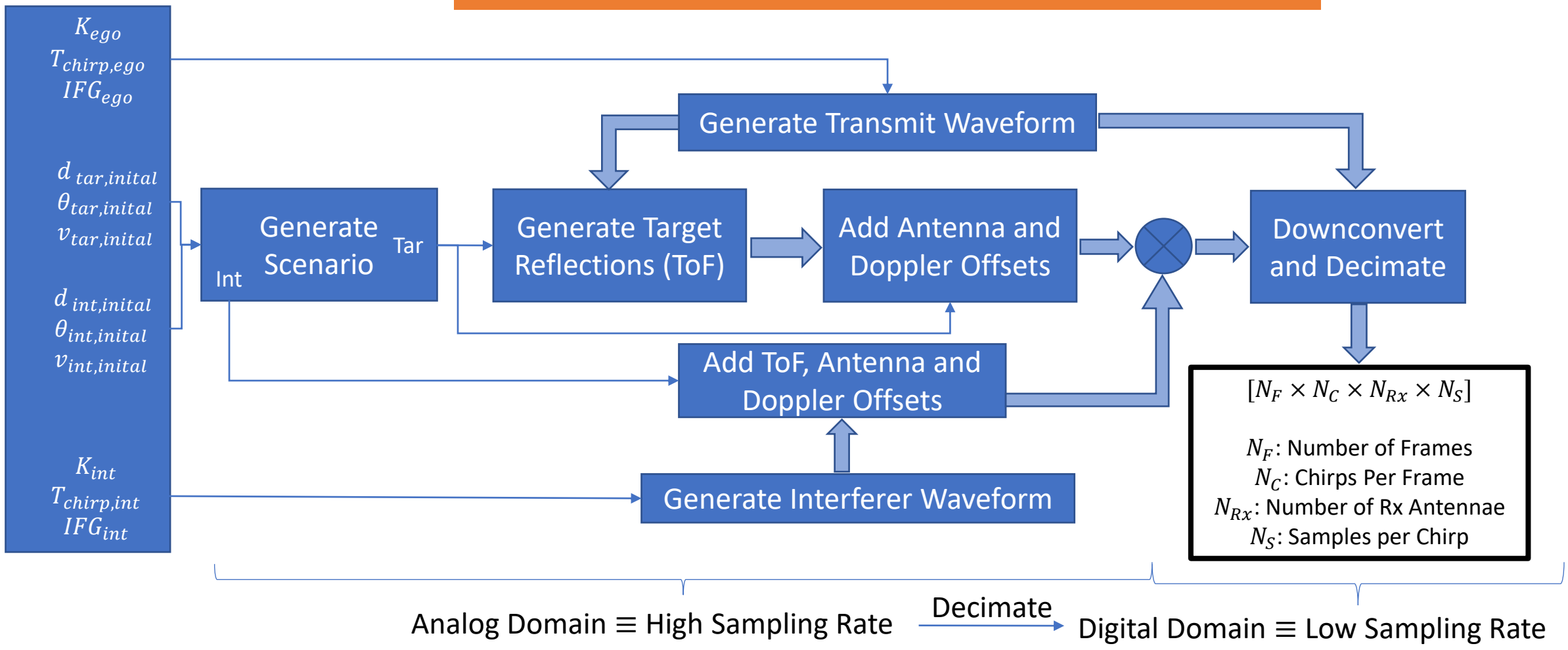
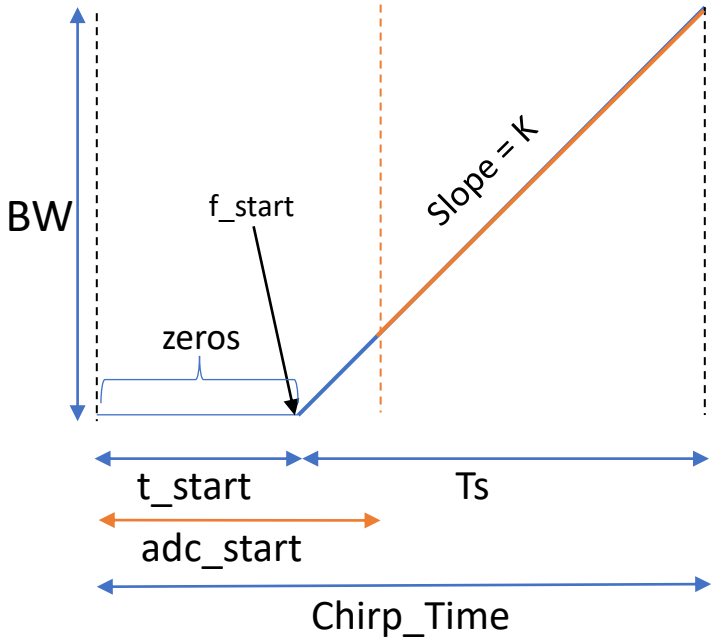
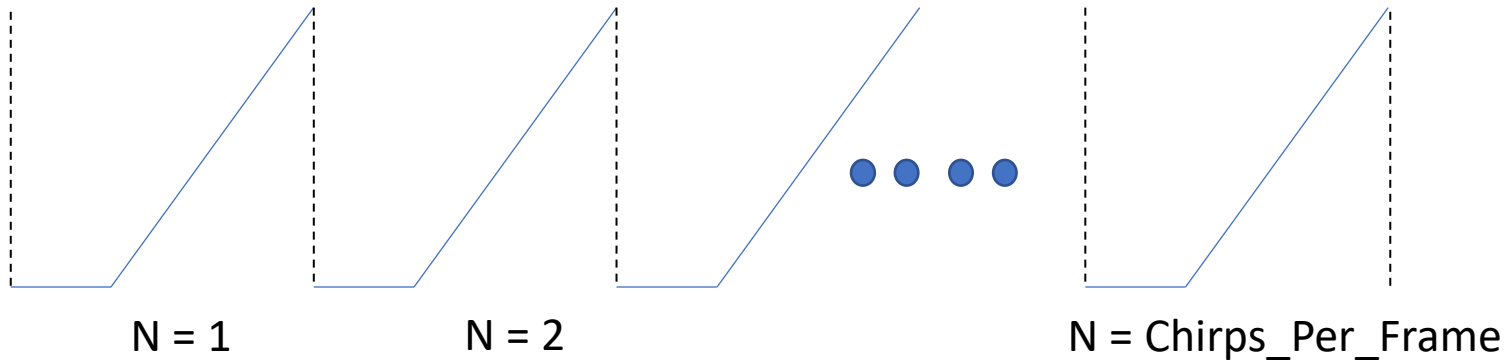
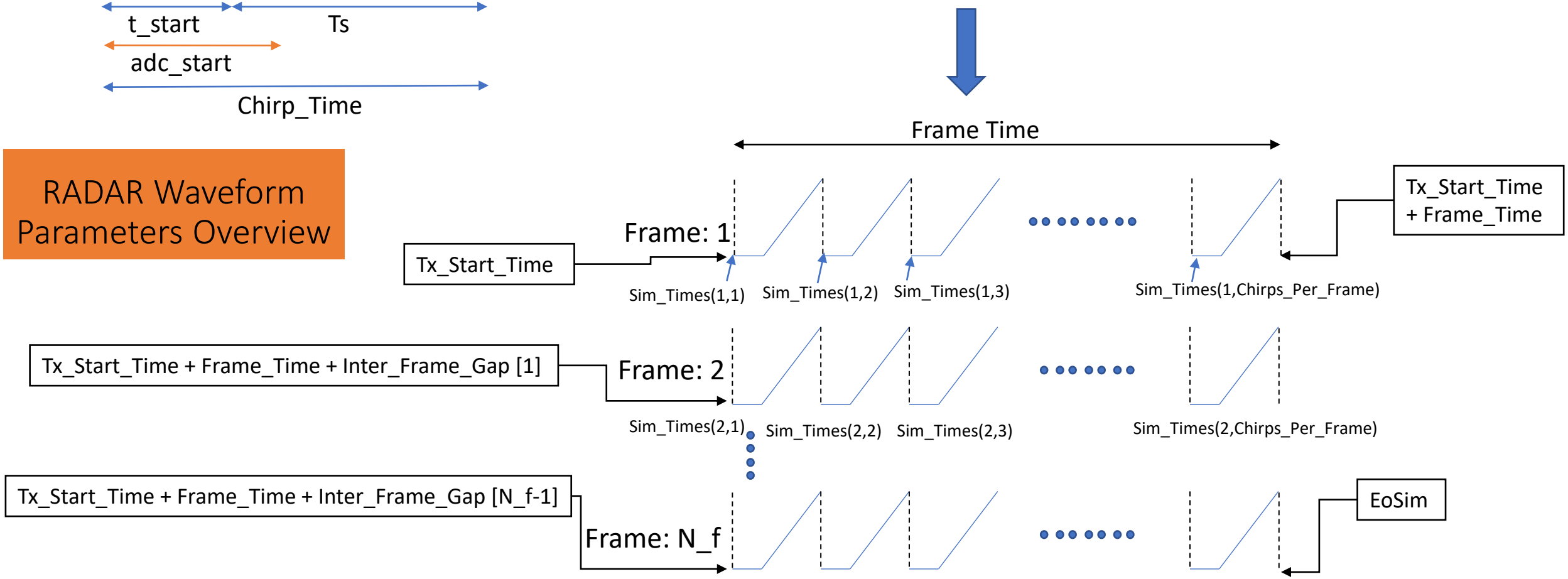
Simulator Overview

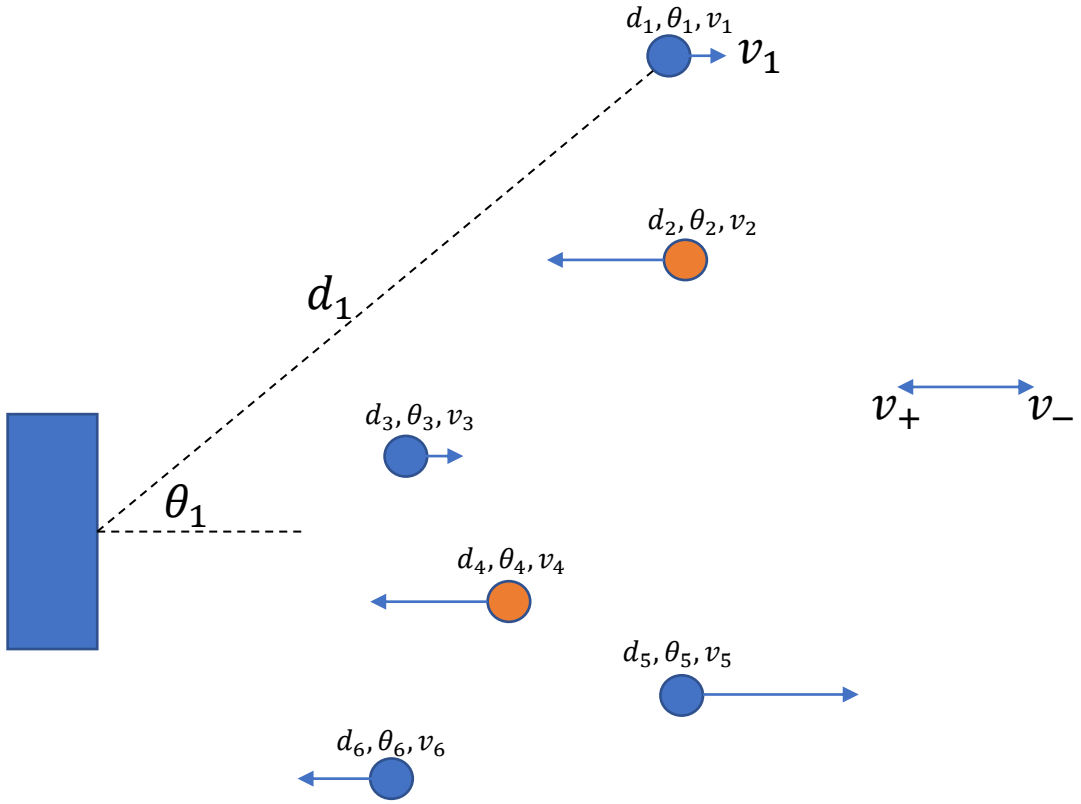


RADAR Waveform Parameters Overview









$$d_{1_{(1,1)}} = \sqrt{{d_{1_i}}^2 + {v_1}^2 * {t_{(1,1)}}^2 - 2 * d_{1_i} * \cos(\theta_i) * v_1 * t_{(1,1)}}$$

$$\theta_{1_{(1,1)}} = \tan^{-1}\left(sign(\theta).\frac{d_{1_i} * \sin\theta_{1_i}}{d_{1_i} * \cos\theta_{1_i} - v_1\cos(\theta_{1_i}) * t_{(1,1)}}\right)$$

$$d = \begin{bmatrix} (d_1..d_6)_{1,1} & \cdots\cdots & (d_1..d_6)_{1,Chirps\_Per\_Frame} \\ \vdots & \vdots & \vdots \\ .. & .. & (d_1..d_6)_{N\_f,Chirps\_Per\_Frame} \end{bmatrix}$$

$$\theta = \begin{bmatrix} (\theta..\theta_6)_{1,1} & \cdots\cdots & (\theta_1..\theta_6)_{1,Chirps\_Per\_Frame} \\ \vdots & \vdots & \vdots \\ .. & .. & (\theta_1..\theta_6)_{N\_f,Chirps\_Per\_Frame} \end{bmatrix}$$

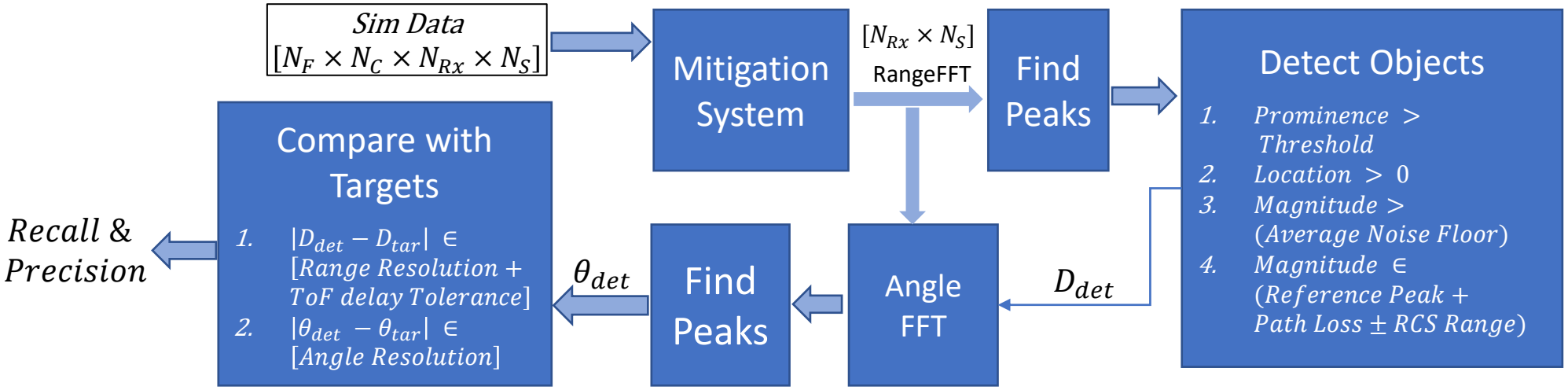
$$\tau = 2\frac{d}{c} + \frac{(j-1) * s * \sin\theta}{c} + \frac{vT}{c}$$

Scenario Generation Overview

Assumptions

- Velocities perpendicular to plane of RADAR
- Not much change in distance/angle during a chirp
- Snapshot of the scene updated and captured at the beginning of every chirp

Object Finder and Evaluation Engine Overview



SALVAGE Overview