利得の計算

2021/7/20 T. Hirano

$$G = \frac{P_1}{P_0} = \frac{4\pi P_1(\theta,\varphi)}{4\pi P_0} = \frac{4\pi P_1(\theta,\varphi)}{P_{in}}$$

$$P_{in} = \oiint_S P_1(\theta,\varphi)dS = \oiint_S P_1(\theta,\varphi)\sin\theta\, d\theta d\varphi$$

$$\cong \sum_{i=1}^{M}\sum_{j=1}^{N} P_1(\theta_i,\varphi_i)\sin\theta_i\,\Delta\theta\Delta\varphi$$

$$\begin{cases} \theta_i = \Delta\theta(i-1) \\ \varphi_i = \Delta\varphi(j-1) \end{cases}$$

$$\begin{cases} \Delta\theta = \dfrac{\pi}{M} \\ \Delta\varphi = \dfrac{2\pi}{N} \end{cases}$$

$$P_1(\theta,\varphi) = |AF(\theta,\varphi)|^2$$