

Figure 2-10

$$\begin{aligned} & \frac{1}{T} \int_0^T v(t) dt \\ & \frac{1}{\pi} \int_0^{\pi} V_0 \sin \phi d\phi \\ & \frac{V_0}{\pi} \int_0^{\pi} \sin \phi d\phi \\ & \frac{V_0}{\pi} (-\cos \phi) \Big|_0^{\pi} \\ & = \frac{V_0}{\pi} (-(-2)) \\ & = \frac{2V_0}{\pi} \end{aligned}$$

Figure 2-11

$$\begin{aligned} & \frac{1}{T} \int_0^T v(t) dt \\ & \frac{1}{\pi} \int_0^{\pi/2} V_0 \cos \phi d\phi \\ & \frac{V_0}{\pi} \int_0^{\pi/2} \cos \phi d\phi \\ & \frac{V_0}{\pi} \sin \phi \Big|_0^{\pi/2} \\ & = \frac{V_0}{\pi} \end{aligned}$$