

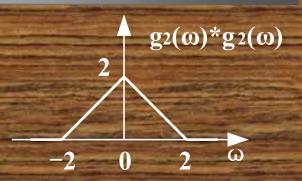
## 卷积定理举例

$$F(jt) \leftrightarrow 2\pi f(-\omega)$$

$$f_1(t)f_2(t) \longleftrightarrow \frac{1}{2\pi}F_1(j\omega) * F_2(j\omega)$$

$$\left(\frac{\sin t}{t}\right)^2 \longleftrightarrow F(j\omega) = ?$$

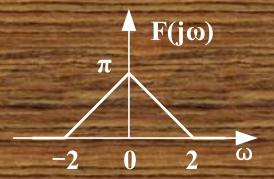
解:  $g_2(t) \longleftrightarrow 2\operatorname{Sa}(\omega)$ 



## 由对称性:

$$2\operatorname{Sa}(t) \longleftrightarrow 2\pi \ g_2(-\omega)$$

$$Sa(t) \longleftrightarrow \pi \ g_2(\omega)$$



$$\left(\frac{\sin t}{t}\right)^{2} \longleftrightarrow \frac{1}{2\pi} [\pi \ g_{2}(\omega)]^{*} [\pi \ g_{2}(\omega)] = \frac{\pi}{2} g_{2}(\omega)^{*} g_{2}(\omega)$$