Blackstock pg 50 $I = \frac{\omega}{2\pi} \int_{0}^{2\pi/\omega} |2||u|^{2} \cos(\omega t + \beta + \theta) \cos(\omega t + \beta) dt$ AU 277 S (ws 6 t +) wood - smot +) end) as 6t + dt (7) 27 Cos (wt + \$) cos 8 de - 21 Shull + \$) cos (wt + \$) and de $|\mathcal{Z}|^{2} = \frac{\omega}{2\pi} \cos \theta \int_{0}^{2\pi} \cos^{2}(\omega t + \beta) dt = \frac{\omega}{2\pi} \cos \theta \left(\frac{1}{2} + \frac{1}{2} \cos(2(\omega t + \beta)) dt\right)$ $= \frac{\omega}{2\pi} \cos \theta \left(\frac{2\pi}{\omega} \cdot \frac{1}{2} + \int_{0}^{2\pi} \cos(2\omega t + 2\beta) dt\right)$ $= \frac{\omega}{2\pi} \cos \theta \left(\frac{\pi}{\omega} + \frac{\pi}{2} + \int_{0}^{2\pi} \cos(2\omega t + 2\beta) dt\right)$ $= \frac{\omega}{2\pi} \cos \theta \left(\frac{\pi}{\omega} + \frac{\pi}{2} + \frac{\pi}{2} \cos(2\omega t + 2\beta) dt\right)$ $= \frac{\omega}{2\pi} \cos \theta \left(\frac{\pi}{\omega} + \frac{\pi}{2} + \frac{\pi}{2} \cos(2\omega t + 2\beta) dt\right)$ u = 2 wt + 2 p take the

du = 2 wt : Indeprive notegral

2 w \int \frac{1}{2} cosudu = \frac{1}{4} \text{200} \int \cos u du = 411 Suntew + 29) 27/w = 4/T (1m(4/T+2B)-1m2B) = 477 (In 477 cos 27 + 00 47 Sun 28 - 2 jui = 4TT (1 sm28-em28)