

$$(25) \iiint_E x e^{x^2+y^2+z^2} dV = \iiint_E \rho \sin\phi \cos\theta e^{\rho^2} \rho^2 \sin\phi d\rho d\theta d\phi$$

$$= \iiint_E \rho^3 e^{\rho^2} \sin^2\phi \cos\theta d\rho d\theta d\phi$$

$$\rho^2 \leq 1$$

$$\rho \leq 1 \quad \rho \in [0, 1] \quad \theta \in [0, \frac{\pi}{2}] \quad \phi \in [0, \frac{\pi}{2}]$$

$$\int_0^{\frac{\pi}{2}} \int_0^{\frac{\pi}{2}} \int_0^1 \rho^3 e^{\rho^2} \sin^2\phi \cos\theta d\rho d\theta d\phi$$

$$\int_0^{\frac{\pi}{2}} \sin^2\phi d\phi \int_0^{\frac{\pi}{2}} \cos\theta d\theta \int_0^1 \rho^3 e^{\rho^2} d\rho$$

$$\left(\frac{\phi}{2} - \frac{\sin 2\phi}{4} \right) \Big|_0^{\frac{\pi}{2}} \left(\sin\left(\frac{\pi}{2}\right) \right) \left(\frac{\rho^2 e^{\rho^2}}{2} - \frac{e^{\rho^2}}{2} \right) \Big|_0^1$$

$$\left(\frac{\pi}{4} \right) (1) \left(\frac{1}{2} \right) = \boxed{\frac{\pi}{8}}$$