SYSTEME DE COORDONNEES

Coordonnées cylindriques

$$x = r \cos \theta$$

$$y = r \sin \theta$$

$$z = z$$

$$dV = r\, dr\, d\theta\, dz$$

$$ds^2 = dr^2 + r^2\, d\theta^2 + dz^2$$

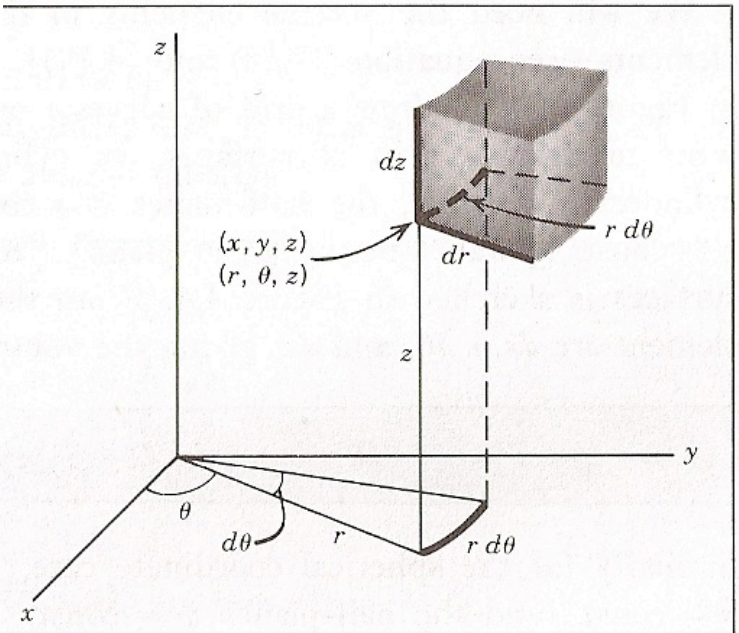

FIGURE 4.4

Coordonnées sphériques

$$x = r \sin \theta \cos \phi$$

$$y = r \sin \theta \sin \phi$$

$$z = r \cos \theta$$

$$dV = r^2 \sin \theta\, dr\, d\theta\, d\phi$$

$$ds^2 = dr^2 + r^2\, d\theta^2 + r^2 \sin^2 \theta\, d\phi^2$$

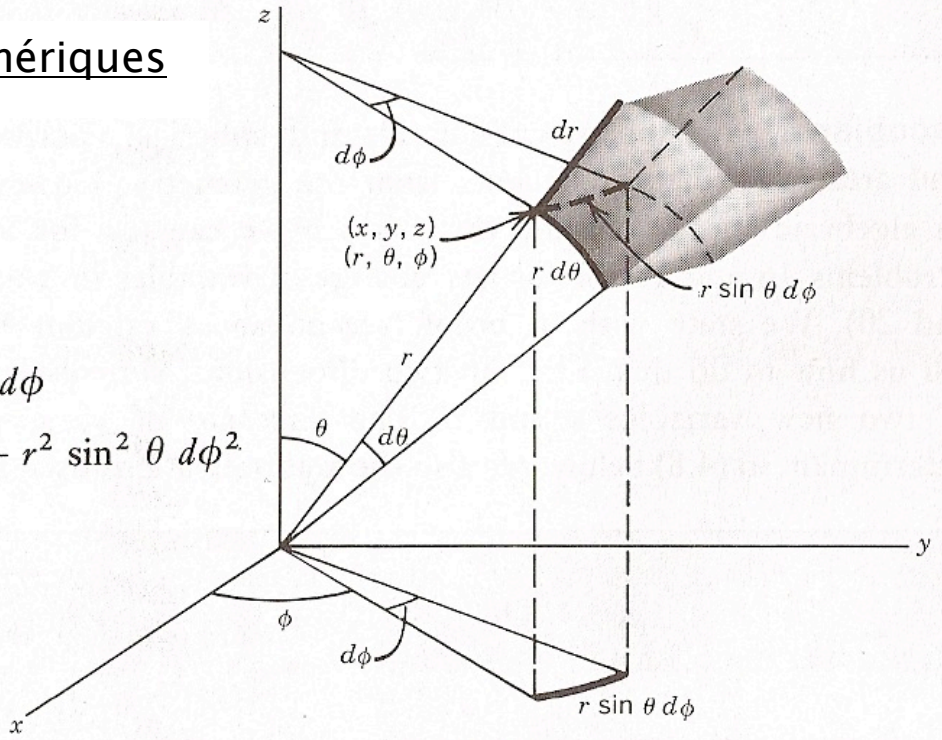

FIGURE 4.5