

Special Problem 2-5.20

Contour C is a straight line extending from point P_a to point P_b .

Contour C passes through the origin.

Point P_a is located at $\bar{r}_a = -(\hat{a}_x + \hat{a}_z)$.

Point P_b is located at $\bar{r}_b = 2(\hat{a}_x + \hat{a}_z)$.

Vector field $\mathbf{A}(\bar{r}) = r^2 \sin \theta \hat{a}_x$

Evaluate the contour integral $\int_C \mathbf{A}(\bar{r}) \cdot d\bar{\ell}$

