

Physics 267: Problem #5

A plane wave travels in the x direction and is incident on an opaque plane with three slits that are parallel to the z -axis. The slits are separated from each other by a distance d . A screen is located far to the right of the slits. Find the smallest angles associated with dark fringes. Using a plot, compare the spacing of dark fringes in three slit and two slit interference (slits also separated by d).

Hint: Use a phasor approach.