1128-35-59 **Neelesh Tiruviluamala***, Dept. of Mathematics, USC, Los Angeles, CA 90033, and **James Ralston**. *A Grazing Beam.*

"We consider Friedlander's wave equation in two space dimensions in the half-space x>0 with the boundary condition u(x,y,t)=0 when x=0. For a Gaussian beam w(x,y,t;k) concentrated on a ray path that is tangent to x=0 at (x,y,t)=(0,0,0) we calculate the "reflected" wave z(x,y,t;k) in t>0 such that w(x,y,t;k)+z(x,y,t;k) satisfies Friedlander's wave equation and vanishes on x=0. These computations are done to leading order in k on the ray path.

The interaction of beams with boundaries has been studied for non-tangential beams and for beams gliding along the boundary. We undertook this calculation to see how a beam would change after it "grazed" a boundary." (Received February 08, 2017)