

**EVE 402**  
**Air Pollution Generation and Control**

**HW #5**

A dust with a density of  $2.0 \text{ g/cm}^3$  is being released from a stack in a rural area with an effective height (H) of 150 m. The particulate emission rate for particles  $100 \text{ }\mu\text{m}$  in diameter is  $7.5 \text{ g/s}$ . The wind speed at  $z = H$  is  $3 \text{ m/s}$  and the atmospheric stability is class D.

- (a) Determine the deposition rate [ $\text{g/m}^2\text{s}$ ] for:  $x = 250\text{m}$ ,  $500\text{m}$ ,  $1000\text{m}$ ,  $2500\text{m}$ ,  $5000\text{m}$ ,  $10,000\text{m}$ , and  $20,000\text{m}$ .
- (b) At what distance downwind does the maximum deposition occur?