

PROBLEM SET 3

16825 LEARNING FOR 3D VISION (SPRING 2024)

<https://piazza.com/cmu/spring2024/16825>

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Instructor: Shubham Tulsiani

TAs: Anurag Ghosh, Ayush Jain, Bharath Raj, Ruihan Gao, Shun Iwase

1. [10 pts]

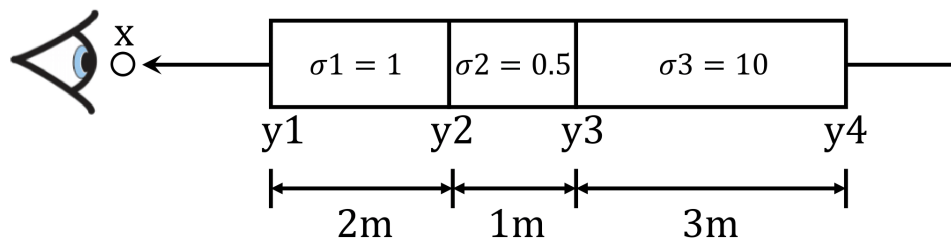


Figure 1: A ray through a non-homogeneous medium. The medium is composed of 3 segments (y_1y_2 , y_2y_3 , y_3y_4). Each segment has a different absorption coefficient, shown as $\sigma_1, \sigma_2, \sigma_3$ in the figure. The length of each segment is also annotated in the figure (1m means 1 meter).

As shown in Figure 1, we observe a ray going through a non-homogeneous medium. Please compute the following transmittance:

- $T(y_1, y_2)$
- $T(y_2, y_4)$
- $T(x, y_4)$
- $T(x, y_3)$

