

PHSX 886: Homework #4

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Problem 1

In the class, we discussed that the EELS in STEM can be used to measure the exciton dispersion. Write a short essay (2–3 pages) to discuss:

- (a) What is the unique advantage of using EELS compared to other techniques for measuring exciton dispersion? Please explain.
- (b) Discuss the basic principles on how this technique works.
- (c) Provide some examples from the literature on how EELS is used for this purpose.

In your essay, feel free to use figures from literature as needed (as long as you provide the citation). You may want to search and read some papers on this topic first before you write the essay.