

Grading Rubric for Papers in Physics 480W

The Matrix

title of reviewed paper:

An exploration into Zeeman Splitting and Rabi Oscillations

Table 1: grading rubric: each evaluative category (row) is scored on a 3-2-1 basis. Each category is weighted (w , shown next to the category descriptor below) either 2, 1, or 1/2. The total number of points possible per row is then $3 \times w$, (i.e. 6pts are possible for row 1). There are 9 total rows, and 30 total points possible. The grades recorded will be, however, a score out of 100 arrived at by dividing the student's score by the total possible, etc., etc. Note that physics content accounts for 18/30 of the total, or 60% of the total grade. Grammar & composition, and formatting account for 40%.

	Proficient (3pts.)	Intermediate (2pts.)	Developing (1pt.)	total-whiff (0pts.)	Score
Physics Content, 18 pts. possible					
Correctness (w=3)	⊗				9
error analysis (w=2)		⊗			4
completeness (w=1)			⊗		1
Grammar & Composition, 9 pts. possible					
level of prose composition (w=1)		⊗			2
level of sentence syntax (w=1)	⊗				3
diction (w=1/2)	⊗				1.5
"Math as Prose" (w=1/2)		⊗			1
Formatting, 3 pts. possible					
L ^A T _E X formatting (w=1/2)		⊗			1
AIP formatting (w=1/2)		⊗			1

Comments: score of draft: 23.5/30.

- I understand that the Rabi Oscillations experiment was an appendage to the existing Optical Pumping experiment, but I feel as though this paper was still 95% old material. There really needed to be more theory presented behind what the Rabi oscillations are, and more about them in your results.
- In terms of the paper content, the water analogy for defining optical pumping was good, although the figure accompanying it could have been done better (not meaning to insult the authors artistic abilities).
- As far as the mechanics of the paper, there is definitely room for improvement, some of the paragraphs go on for entire pages, making it difficult to read. There were also minor grammatical and spelling mistakes.
- Other notable features include that the conclusion and the references are both quite short.
- I think the best thing for this paper is to tie in more information about what separates this experiment from the old optical pumping one, and then shorten some of the page-long paragraphs, put in a few more references and extend the conclusion.