

# Exam Report

---

**Module Code/Title: PHYS3008**

**Module Leader: Tim Morris**

*Feedback comments:*

The failure rate, grade distribution and mean mark were all acceptable.

Questions A1 and A2 were generally well done, demonstrating that the student body had understood the behaviour of quantum operators and how to properly use their properties in the evaluation of the observables. Some students lost a mark on question A3 for not pointing out the iterative nature of the central field approximation. Question A4 was found more challenging since many didn't realize the difference between the classical and the quantum approach in the evaluation of the Stark effect.

In question B1, there was a typo in the question that was pointed out in the examination hall. I was careful to ensure that no student was penalised if their answer was based on the typo. Most students answered this question very well indeed, with quite a few getting well into first class or even full marks. In the final part most students did not state that Hund's rules could be applied when they could and just used them anyway. I gave them the marks anyway and next time in this style of question I will make sure I don't give marks for stating that you can use the rules. In B3(i) very few students answered precisely, so most got only one of the two marks. Part (ii) and (iii) were well done in general but predictably most found (iv) challenging. B4 was generally well answered although there were slips in B4(iv).