

The essay is well organized, well written, clear and easy to read. The topic, in astrophysics, is sharply focused. The student answers a classic research question with a personal touch as shown by the Adobe® Photoshop® technique used to determine more precisely the size of a series of chosen spiral galaxies. A tone selector enhances the picture of each galaxy thus defining the edge and, consequently the angular size of the galaxy. Here, the approach of the student demonstrates skill and professionalism.

At each step, the student is careful, methodical, analytical and fully engaged. Top marks are obtained for criteria A, B and J even though not all is perfect. The method is clearly described; however, it would have been good to include more details about the technical origin of the pictures as well as the way the peaks on the spectral intensity graphs are identified. Clear argument and close reasoning are evident. The analysis is generally sound and of good quality. However the selection of the “best fit” Sa spiral galaxies appears to be somewhat “biased”.

Significant digits are not well respected and uncertainties not always consistent. Good language is used but some illustrations are not clearly identified. Standards are not followed in the writing of numerical values with their units and uncertainties. The expression “escape velocity” is not used in a proper context. A number of typographical errors are present. Citations and bibliography are not entirely consistent. Overall, this is an excellent essay in spite of some weaknesses.