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## To Whom It May Concern:

I am writing to recommend Kenosha Drucker for the Vesto M. Slipher scholarship. Kenosha is a bright, hard-working student with a passionate and thoughtful drive for an academic career in physics. I teach entry-level physics and have previously taught seniors and graduate students. From conversations with Kenosha, I can realistically see how she could become a strong researcher and great teacher in physics. Physics desperately needs more women and young American kids that will pursue and succeed at such a path, and Kenosha shows great promise. The Vesto M. Slipher scholarship would be a great recognition of her choices and accomplishments in her first year of college.

Kenosha's parents teach physics and math, so I have known her for many years, though I did not talk to her while she was busy with high school in Fountain Hills. Coincidentally, she is within a year of my daughter's age and that of two other physics professors' daughters I know, but only Kenosha is pursuing a math or physics career. During her freshman year, I have been grading her PHY 121 and PHY 131 exams, since she is taking the honors section that her dad teaches. Through an arrangement cleared with the Dean's office, I provide independent grading of her exams, since I teach the larger non-honors sections of PHY 121 and PHY 131. This has given me a great opportunity to view her coursework. She has done well on every exam, and has mastered the concepts. The only place she loses points is when she makes a wrong turn in a mathematical derivation. Even then, most of her algebra and calculus is correct, and I expect she will learn multiple ways to double-check her theoretical derivations over the next few years. She has clearly mastered the physical concepts and earns her good grades through careful study and hard work.

When talking to her in person, I am impressed by her maturity. Having grown up with academic parents, she understands the rewards and challenges of academics. She is fascinated by science and even now loves to teach through tutoring. She has a lot ahead of her in her studies, and has said that she is really looking forward to learning quantum mechanics and astrophysics. We have also talked some about research and involvement with the Society of Physics Students, and I expect she will get more involved in those aspects of physics undergraduate studies in her sophomore year. She has also talked to me about her need to get a part-time job by this summer, and it is clear that a scholarship would help free up more time to focus on physics or perhaps take on lower-paying physics tutoring job rather than something off-campus.

In summary, I strongly recommend Kenosha Drucker for a Vesto M. Slipher physics scholarship. She has outstanding potential for success in an academic career in physics, and her intelligence, character, and hard work are well suited to excel in this challenging field. As an instructor in the introductory PHY 121 and PHY 121 courses, I can see that physics is in need of strong domestic students like Kenosha to be future leaders in the field, and it would be great if we could encourage her continued success with a physics scholarship award.

Sincerely,

Jan 8st of

John B. Shumway, Jr.