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Laser Light Scattering for Mask Filtration Effectiveness MARCUS ALCANTARA SILVA, NIMMI SHARMA, Central Connecticut State University — With the ongoing COVID-19 pandemic concerns over the effectiveness of different mask materials in helping to prevent the spread of the virus, a simple way to quantify mask filtration effectiveness of different size particles would be desirable. Thus, studies were conducted to see if an inexpensive sensor could be helpful in assessing air filtration for different mask materials. A dual laser particle counter was used to irradiate suspended aerosol particulates in sampled air with laser light to obtain the scattered light over time. Then, using Mie scattering theory, the scattered intensity was used to calculate the number of particles with different diameters, from 0.3 to 10.0 μm. This study investigates the effectiveness of different mask materials in removing small particles from ambient air samples.

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