

# Particle measurement on all-metal gate valve for CEBAF beamline via laser-based particle counter

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The Viton gate valves installed in the CEBAF beamline have significantly degraded after long-term operation in a radiation environment, generating numerous particles that cause heavy contamination and strong field emission. As a replacement, all-metal gate valves have been proposed for installation in the CEBAF beamline. In this paper, we present thorough comparison tests between the Viton gate valves and the all-metal gate valves, including evaluations of particle levels, aging tests of the gate valves, and analysis of the particle material.

## Footnotes

## Funding Agency

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