

Abstract Submitted
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Precision spectroscopy of lithium-noble gas collisional perturbations BEN OLSEN, Yale-NUS College — Collisions between lithium atoms and noble gas atoms occur in stellar atmospheres, as well as in buffer-gas filled spectroscopy cells in laser cooling experiments. These collisions broaden and shift the lithium absorption spectral features, and the Doppler-broadened spectra have been well characterized, especially at high noble gas pressures. Using saturated-absorption spectroscopy, we study the low-pressure shifts and broadening for lithium colliding with various noble gases in the regime most commonly employed in laser cooling experiments. These results can not only improve laboratory practice, but also can be used to constrain lithium-noble gas interatomic potentials.

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