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Van der Waals pentamers.[1] JIANING HAN, University of South Alabama — We report on the five-body repulsive van der Waals interactions in the strongly dipole-dipole coupled Rydberg states. Compared to three-body and four-body interactions, five-body van der Waals interactions show more energy levels and more potential wells caused by avoided crossings. This research bridges the few-body physics and many-body physics. Other disciplines, such as chemistry, biology, and medical field, will also benefit from better understanding van der Waals interactions.

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Jianing Han
University of South Alabama

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