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A new optical decelerator to make ultracold molecules SUSUMU KUMA, CREST, DAISUKE ANDO, Kyoto University, MASAAKI TSUBOUCHI, TAKAMASA MOMOSE, The University of British Columbia — We propose a new method to decelerate molecules using a dipole force of intense IR radiation. We found that periodical switching of a standing wave in an IR cavity decelerate moleucles very efficiently. Numerical simulations showed large phase- space areas of decelerated molecules by this technique. An experimental setup to make ultracold molecules from the room temperatures will be proposed.

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