Thick and thin slices of photoproducts: correlated state distributions in ketene dissociation$^1$ GREGORY HALL, Brookhaven National Laboratory, ANATOLY KOMISSAROV, JPL, MIKE MINITTI, Stony Brook University, ARTHUR SUITS, Wayne State University — We have revisited the correlated product distribution of CH$_2$ + CO in the photodissociation of ketene at an energy 2350 cm$^{-1}$ above the barrierless singlet dissociation threshold. Using time-sliced ion imaging, we find the speed distribution of state-selected CO fragments to be quite different from previous measurements. For each CO rotational state observed, the deviations of the coincident CH$_2$ distribution from a statistical Phase Space Theory can be accurately described with a single parameter in the spirit of a linear surprisal. The distributions are consistent with calculations of exit channel rotational dynamics starting at a variational transition state.

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