Canton *et al.* Reply: The Comment by Manini and Tosatti [1] questions the validity of the tunneling interpretation [2] based on the grounds of two different arguments. First, according to [1], tunneling splittings would be expected to be much smaller than any of the Jahn-Teller (JT) active frequencies. Second, the state of the art calculation using *ab initio* coupling parameters and frequencies [3] predicts values in the 30 meV range.

Large spacings between vibronic states are not uncommon in free ions. Photoelectron spectroscopy is an experimental technique that can be used as a tool to quantify these spacings by measuring the difference in energy position between peaks underlying an electronic band with unresolved vibrational structure. Other species than ${C_{60}}^+$ can be found where splittings are larger than the JT active mode responsible for the coupling. For example, in ${FeCO_5}^+$ [4], a well characterized static $E \otimes e$ JT system, the value for the splitting of the first $^2E'$ state into $^2A_1$ and $^2B_2$ components is found to be around 400 meV, which is much larger than the e frequency (9 meV).

More specifically, for the case of ${C_{60}}^+$, the theory developed in [5] predicts that the tunneling splitting between A and H states in the D_{3d} geometry ranges from 0 to $\hbar\omega$ for $H \otimes h$ systems, from 0 to $2\hbar\omega$ for $H \otimes g$ systems, and from 0 to $2\hbar\omega$ for the multimode $H \otimes (h \oplus g)$ systems to which the fullerene cation pertains. The experimental spectra [2] for ${C_{60}}^+$ show spacings with the order of magnitude $\hbar\omega$ to $2\hbar\omega$. The occurrence of tunneling splittings exceeding the frequency $\hbar\omega$ of the JT active mode does not seem to be an intrinsic physical limit but rather a conditional expression for the validity of perturbative treatment [6].

Nevertheless, the realization of the large difference between the experimental and the recent theoretical splitting values [1] is a very interesting point. It should be emphasized that the experimental values are only qualitative since other influencing factors such as temperature, known to be critical [4], or excitation of a_g modes (broadening) could not be taken into consideration in the present experiment. In particular, no attempt was made to extract coupling strengths from the splittings, which is, in principle, possible as exposed in [5].

In conclusion, we believe that tunneling splittings larger than the JT active frequencies do not automatically rule out the interpretation based on the three-peak structure given in [2], even though their values are drastically different from the calculated values [1]. Further studies are clearly necessary to explain this discrepancy. From an experimental point of view, the effects of temperature should certainly be investigated. Theoretically, simulating the transition from the static to the dynamic regime in icosahedral symmetry would be most enlightening.

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