

Evidence for the Existence of Two-Phonon Collective Excitations in Deformed Nuclei
[Phys. Rev. Lett. 66, 691 (1991)]

H. G. Börner, J. Jolie, S. J. Robinson, B. Krusche, R. Piepenbring, R. F. Casten, A. Aprahamian,
and J. P. Draayer

We would like to correct two errors appearing in our recent Letter.

(1) In the derivation of the $B(E2)$ ratio $R(4^+) = B(E2; 4^+ \gamma \gamma \rightarrow 2^+ \gamma) / B(E2; 2^+ \gamma \rightarrow 0^+)$ for some of the theoretical models (harmonic approach, SCCM, and MPM) an error arose due to a wrong normalization of the $K=0$ wave function. The ratio given for these models has to be divided by a factor of 2. So in the harmonic approach $R(4^+) = 2.78$ and Table II becomes the following:

	$R(4^+)$
Expt.	$0.52 < R(4^+) < 1.61$
QPNM	$< 10^{-3}$
MPM	0.53
<i>sdg</i> -IBM	1.4
DDM	1.3
SCCM	1.9
Sp(3, R)	1.2
Pseudo-SU(3)	1.2

With these corrected values the self-consistent collective-coordinate method [M. Matsuo and K. Matsuyanagi, Prog. Theor. Phys. **78**, 591 (1987)] only slightly overpredicts the $B(E2)$ ratio and the measured absolute $B(E2)$ value of the $B(E2; 4^+ \gamma \gamma \rightarrow 2^+ \gamma)$.

(2) In the present Table II we have also corrected the wrong value for $R(4^+)$ in the DDM from Ref. 4 [K. Kumar (private communication)].

These corrections in no way affect the conclusion of the Letter on the existence of two-phonon states in deformed nuclei. In fact, they strengthen it since the $K=4$ band is now seen to have decay properties even more in line with those of a harmonic two-phonon excitation than previously thought.

We would like to thank Dr. K. Matsuyanagi and Dr. M. Matsuo for pointing out the first error. This work has been supported in part under Contract No. DE-AC02-76CH00016 with the U.S. Department of Energy and by Contracts No. PHY-90-06246 and No. PHY-89-22550 with the National Science Foundation.