Otsuka et al. Reply: In a recent Letter [1], we have shown that the spin-isospin dependent part of the nucleon-nucleon (NN) interaction, which is known to be strong, drives effective single-particle energies of certain orbits of exotic nuclei, and has significant effects on shell gaps and thereby magic numbers. As examples of its consequences, shell gaps at $N=8$ and $20$ can become smaller in some exotic nuclei, while new magic numbers arise at $N=6,16,34$. The mechanism of this change is due to the proton-neutron ($p$-$n$) coupling between $j_{z} (= l + 1/2)$ and $j_{\langle} (= l - 1/2)$ orbitals which contains a strong monopole attraction. If protons occupy $j_z$ orbitals, the neutron $j_{\langle}$ orbital comes down relative to other orbitals. In some cases, this change can produce a new gap or reduce an existing gap. Our shell-model interactions contain empirical fits, but are based on microscopic $G$-matrix results by Kuo [2] and by Hjorth-Jensen et al. [3]. In fact, as far as the $p$-$n$ $j_{z}$-$j_{\langle}$ coupling is concerned, it was shown in [1] that our interaction for the $sd$ shell is close to Kuo's interaction [2]. In the $p$ shell, the $p$-$n$ $j_{z}$-$j_{\langle}$ coupling was made stronger in [1], consistent with the $G$ matrix of [3].

In the preceding Comment [4], Zuker claims that the mechanism discussed in [1] as an origin of the disappearance of existing magic numbers and the appearance of new magic numbers is interesting but its influence on magicity is marginal. We cannot agree with this conclusion. We mention that the change of effective single-particle energies of certain orbits, as far as the $p$-$n$ $j_{z}$-$j_{\langle}$ interaction is related to the $\sigma \cdot \tau \sigma \cdot \sigma$ interaction, which influences spin properties like Gamow-Teller (GT) and magnetic transitions. It has been shown [11,12] that our Hamiltonians with a strong $p$-$n$ $j_{z}$-$j_{\langle}$ interaction improve GT and magnetic properties. Thus, our modification has been justified by independent observables.

In [4], $N=16,32$, and 56 were discussed. The closure at $N=16$ or 32 is due to the absence of the effect of the $p$-$n$ $j_{z}$-$j_{\langle}$ interaction [1], and the latter is discussed later quantitatively with the GXPF1 interaction in [5].

In the second paragraph from the end in [4], a constant gap of 4 MeV is claimed. Our gap is about 4 MeV in $^{32}$Mg, but changes gradually down to about 3 MeV in $^{30}$Ne and is restored to about 6 MeV in $^{40}$Ca [13].

Finally, we emphasize that our Hamiltonians with the strong $p$-$n$ $j_{z}$-$j_{\langle}$ interaction and resultant change of shell structure have given a rather good description of low-energy states of basically all nuclei from $A \sim 10$ up to $\sim 60$ investigated so far [1,5,12,13]. This is essentially due to a proper change of the shell structure as well as that of deformation.

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