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 $j_>(= l + 1/2)$ and $j_<(= l - 1/2)$ orbitals which contains a strong monopole attraction. If protons occupy $j_>$ orbitals, the neutron $j_<$ 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* $j_>$-$j_<$ 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* $j_>$-$j_<$ 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, and we will discuss several major points in [4] as they appear.

First, the general feature of the *p-n* $j_>$-$j_<$ coupling was mentioned in [4]. We have no basic disagreement here. We mention that the change of effective single-particle energies from Ca to Ni isotopes has already been discussed quantitatively by Honma *et al.* [5] by introducing the GXPF1 interaction with the appearances of the pseudo-*LS* scheme in Ni isotopes and the $N = 34$ magic number in Ca isotopes.

Regarding the monopole interaction in general, the present $j_>$-$j_<$ monopole interaction is undoubtedly one of various monopole interactions, the general importance of which has been stressed by Zuker [6,7]. In our opinion, the present *p-n* $j_>$-$j_<$ monopole interaction is particularly strong compared to other monopoles, while it was scaled with some other monopoles in the empirical systematic fit made in [7]. The significance of this $j_>$-$j_<$ monopole interaction was pointed out earlier, for heavy nuclei, by Heyde *et al.* [8] based on a seminal work by Federman and Pittel [9].

We again agree on the success of the KB1, KB2, KB3 interactions in the remedy of monopole problem of the *G*-matrix interaction, as raised by Poves and Zuker [10].

The next subject in [4] is the $N = 6/8$ closure. The *p-n* $j_>$-$j_<$ interaction is related to the $\tau \cdot \tau\sigma \cdot \sigma$ 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* $j_>$-$j_<$ interaction improve GT and magnetic properties. Thus, our modification has been justfied 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* $j_>$-$j_<$ 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* $j_>$-$j_<$ 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 ~ 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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