Bilger, Clement, and Schepkin Reply: We fully agree with the authors of the Comment [1] that the signature of a resonance is first of all a sharp energy dependence at fixed scattering angle. However, angular distributions at resonance are crucial as well, since they are uniquely characterized by the spin of the resonance. It is true that the spin determination in our case depends somewhat on the description of the nonresonant double charge exchange (DCX), but we find it very unlikely that for all the many cases considered [2,3] a consistently calculated background description might be found, which provides a description of the data as good as for our $J^P = 0^-$ assignment.

As we have pointed out in Refs. [2,3], the analysis of the DCX data restricts the isospin only to $T = 0$ or 2. As we have noted, the lower isospin is preferred in QCD inspired models, since there $T = 0$ leads to the lowest dibaryon masses. In their Comment the authors now point out, that from the meson-nucleon point of view the situation might be quite different and refer to the outcome of their calculations for the NN-πNN coupled system, which favor a $T = 2$ assignment. In this case we have to investigate whether other data from dibaryon searches might be in contradiction to such an assumption. Since mass (2.065 GeV) and $pp\pi^-$ and $nn\pi^+$ partial widths (0.17 MeV) for such a resonance are known from our analysis we may estimate its contribution to experimentally investigated reactions like $\pi^- d \to \pi^+\pi^- nn$ (1) and $pp \to pp\pi^+\pi^-$ (2). Let us henceforth call the hypothetical $T = 2$ resonance X in order to distinguish it from d' for $T = 0$. For reaction (1) there exists an upper limit of 50 nb/sr for X^- production from an experiment at $T_\pi = 292$ MeV [4] and for reaction (2) there is an upper limit of 8 nb/sr for X^{+++} production from an experiment at $T_p = 1.5$ GeV [5].

Suppose it is X^+ which is seen in low-energy DCX. Then its total $NN\pi$ width is just $\Gamma^X_{NN\pi} = 6\Gamma^{X^+}_{pp\pi^-} = 6\Gamma^{d'}_{pp\pi^-} \approx 1\,\text{MeV}$. Because of isospin symmetry each member of the $T = 2$ quintet will have the same width. For X^{+++} the only decay channel is $pp\pi^+$, hence $\Gamma^{X^{+++}}_{pp\pi^+} = 6\Gamma^{X^+}_{pp\pi^-}$. Consequently the X^{+++} contribution is 18 times larger than the d' contribution to reaction (2), if we assume that the dynamics of d' and X production is the same. Hence from the s-wave cross section for d' production in reaction (2) calculated in Ref. [6] we can estimate the X^{+++} production cross section at 1.5 GeV to be in the order of 1 μb/sr. Inclusion of the Δ mechanism, which actually plays a dominant role in production and decay of X, increases these estimates further by roughly an order of magnitude. While for reaction (1) similar considerations lead to an estimated cross section close to the experimental limit [4], we end up for reaction (2) with a cross section which is 3 orders of magnitude above the corresponding experimental limit [5]. Thus an assignment of $T = 2$ to the πNN resonance at 2.065 GeV appears to be excluded.

We note that the much smaller cross section for d' production as compared to X^{+++} production in reaction (2) does not necessarily prohibit a search for d' in that particular reaction. As discussed in Ref. [6] the d' production cross section close to threshold ($T_p^{\text{lab}} = 0.71\,\text{GeV}$) is expected to be roughly 10% of the total cross section there. Also small invariant pp masses preferred [6] in d' decay allow to selectively look for d' events in the $pp\pi^-$ invariant mass spectrum. Indeed, first such measurements [7] at ITEP show a positive result for d' in reaction (2).

As all approaches in this field the one used by Garcilazo and Mathelitsch (as well as quark approaches that favor a low isospin resonance) is also model dependent (see, e.g., [8]). The authors of the Comment reject $T = 0$ arguing that this channel is dominated by the nonpole part of the P_{11} πN interaction. That a very weak partial wave like the P_{11} is not likely to give rise for a resonance, is by no means surprising. However, it is the S_{11} partial wave which is the strongest one (as well as attractive) in the energy range of interest, although this channel does not contain the nucleon pole at all. With this partial wave total isospin 0 and $J^P = 0^-$ result in nucleons being in the $^1S_0$ state which is also attractive. Such an S-wave πNN system was recently considered in Ref. [9]; there the possibility for a resonant structure not far from the $NN\pi$ threshold has been discussed. A more detailed treatment of this possibility appears to be highly desirable.

R. Bilger and H.A. Clement
Physikalisches Institut der Universität Tübingen
D-72076 Tübingen, Germany

M.G. Schepkin
Institute for Theoretical and Experimental Physics
Moscow, Russia

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