Erratum: Near-threshold resonances in ^{11}C and the ^{10}B$(p, \alpha)\,^{7}$Be aneutronic reaction [Phys. Rev. C 107, L021305 (2023)]

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Due to the convergence problem related to the direct integration at very low energies above the proton emission threshold ($E \leqslant 15$ keV), the proton single particle width of $1s_{1/2}$ state and the proton partial width of $5/2^+_2$ resonance given in the original Letter were incorrect. The corrected code gives the proton single particle width of $5/2^+_2$ resonance: $\Gamma_p^{s.p.} = 2.4 \times 10^{-13}$ eV and 1.7×10^{-13} eV at the energy 9.6 keV [1] and 9.4 keV [2], respectively.

This result affects the models considered in the original paper. In the shell model embedded in the continuum (SMEC), there is a natural limit on the maximal continuum coupling strength $|V_0|$ when the width of a many body state exhausts the single particle value. For the $5/2^+_2$ resonance, this limit is reached at $V_0 = -112$ MeV fm^3 which eliminates the variants $k = 1$ and 3 of the models considered in original Letter. The variant $k = 2$ of the shell model, remains unchanged. Consequently, the $k = 1$ shell model (SM) results and $k = 3$ SMEC results shown in Fig. 1 of original Letter should be discarded. Similarly, in Fig. 2, the dashed line which denotes the $k = 3$ SMEC results should be discarded. The above modifications lead to a tiny change of the proton spectroscopic factors with respect to the values shown in the Letter (see Table I).

TABLE I. The proton $s_{1/2}$ and $d_{5/2}$ spectroscopic factors of the $7/2^+_1$, $5/2^+_2$, and $5/2^+_3$ states in the vicinity of the proton emission threshold in ^{11}C are obtained for different variants of calculation: $\mathcal{S}^{(2)}$ is the SM value for a variant $k = 2$ of original Letter; $\mathcal{S}^{(R)}$ is the SMEC result for $V_0 = -33$ MeV fm^3 which reproduces the $5/2^+_2$ resonance width of Ref. [4]; and $\mathcal{S}^{(4)}$ is the SMEC result for $V_0 = -112$ MeV fm^3 which corresponds to the single-particle limit of the $5/2^+_2$ proton partial width.

	$\mathcal{S}^{(2)}_{s1/2}$	$\mathcal{S}^{(R)}_{s1/2}$	$\mathcal{S}^{(4)}_{s1/2}$	$\mathcal{S}^{(2)}_{d5/2}$	$\mathcal{S}^{(R)}_{d5/2}$	$\mathcal{S}^{(4)}_{d5/2}$
J^π	SM	SMEC		SM	SMEC	
$7/2^+_1$	0.0870	0.0874	0.0920	0.3738	0.3742	0.3784
$5/2^+_2$	0.3200	0.3207	0.3270	0.1928	0.1929	0.1940
$5/2^+_3$	0.0555	0.0543	0.0438	0.0062	0.0059	0.0034

All physical conclusions of the original Letter concerning the low-energy proton continuum in ^{11}C remain unchanged, i.e., the improved SMEC analysis shows that the proton continuum is determined mainly by the near-threshold resonance $5/2^+_2$ and, to a smaller extent, by the subthreshold level $7/2^+_1$. The calculated proton spectroscopic factor for the $5/2^+_2$ resonance remains almost unchanged with respect to the one given in the original paper and is in a qualitative agreement with the phenomenological value [3]. In summary, our proton partial width of the $5/2^+_2$ resonance is consistent with the R-matrix estimates [2,4,5]: $\Gamma_p \simeq 2 \times 10^{-14}$ eV (see also [6]) and reproduces the $5/2^+_2$ width of Ref. [4] for the continuum-coupling strength for $V_0 = -33$ MeV fm^3.

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