Erratum: Λ polarization in peripheral heavy ion collisions [Phys. Rev. C **88, 034905 (2013)]**

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In Sec. II, in the un-numbered equation after Eq. (4), we reported the angular distribution of the proton momentum $dN/d\Omega^*$ as a function of the polarization vector Π_0 . In our convention, which follows that of Ref. [10], this vector has a maximal magnitude of $1/2$, i.e., the Λ spin, whereas the usual convention in particle physics has as maximal magnitude 1, i.e., 100% polarization. Therefore, the correct formula for the angular distribution with $\alpha = 0.647$ reads

$$\frac{1}{N} \frac{dN}{d\Omega^*} = \frac{1}{4\pi} (1 + 2\alpha \Pi_0 \cdot \hat{\mathbf{p}}^*).$$

In Sec. II, below Eq. (3), we erroneously stated that because of parity symmetry, the integral term on the right-hand side of Eq. (3) involving the time derivative of β and the gradient of β^0 vanishes. In fact, because of the noninvariance of the β four-vector under reflection ($\beta^0, \beta \rightarrow \beta^0, -\beta$), the Fermi-Dirac distribution gets changed

$$n_F = \frac{1}{e^{\beta^0 \varepsilon - \beta \cdot \mathbf{p} + \mu/T} + 1} \rightarrow \frac{1}{e^{\beta^0 \varepsilon + \beta \cdot \mathbf{p} + \mu/T} + 1},$$

and the second term on the right-hand side of Eq. (3) does contribute to the polarization vector. This additional term vanishes in the nonrelativistic limit of the flow $\|\beta\| \ll \beta^0$ and of the particle as well ($\|\mathbf{p}\| \ll \varepsilon$).

Under the conditions explored in the paper and according to our calculations, initially the relative contribution of the neglected term to Π_{0y} in Eq. (3) is small and positive. However, for later times, it increases, and at 4.75 fm/c—the time chosen for the stopping of the hydrodynamical regime—it overcomes the first term at high $|p_x|$ and small $|p_y|$. As a consequence, the overall pattern of the $\mathbf{p}_T$ dependence of $\Pi_{0y}(p_x, p_y)$ changes considerably with respect to our previous calculation with a maximal positive (i.e., opposite to the angular momentum, see Fig. 1 in the paper) polarization of 8% at high $|p_x|$ and small $|p_y|$ and a minimum at -6% (negative, i.e., along the angular momentum) at high $|p_y|$ and small $|p_x|$ momenta, whereas the momentum average of Π_{0y} remains negative, see the figure below.

Note that, in the corrected Fig. 3 below, we have plotted the polarization normalized to 1, that is, 2Π with Π as in Eqs. (1), (3), and (4).

FIG. 3. Replacement for Fig. 3. The y component (left panel) and the modulus of the polarization (right panel) in the rest frame of the Λ as a function of momentum in the transverse plane (i.e., at $p_z = 0$).