Table of Major Corrections in

Quark-Gluon Plasma

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Page#	Location	Wrong	Correct
22	Eq.(2.21)	$\cdots = -\lambda\xi\partial^\mu A_\mu, \cdots$	$\cdots = -\lambda\xi^{-1}\partial^\mu A_\mu, \cdots$
22	7th line	$\cdots$ i.e. $\delta_{\rm BRST}^2 = 0.$ $\cdots$	$\cdots$ i.e. $\boldsymbol{\delta}_{\rm BRST}^2 = 0$ with $\delta_{\rm BRST} \equiv \lambda\boldsymbol{\delta}_{\rm BRST}$. $\cdots$
30	20th line	$\cdots = -\epsilon_{\rm vac}g^{\mu\nu}$ using $\cdots$	$\cdots = \epsilon_{\rm vac}g^{\mu\nu}$ using $\cdots$
39	8th line	T and/or $\rho^{1/3}$ is $\cdots$	T and/or $\rho^{1/3} \gg \Lambda_{\rm QCD}$ is $\cdots$
45	2nd line	$\cdots$ with length L is $\cdots$	$\cdots$ with large L is approximately $\cdots$
46	Eq.(3.37)	$\cdots = \left(\frac{\pi}{4\zeta(3)}\right)^{1/3}\frac{0.35}{R_\pi} \simeq \cdots$	$\cdots = \left(\frac{0.35\pi}{4\zeta(3)}\right)^{1/3}\frac{1}{R_\pi} \simeq \cdots$
55	8th line	$\cdots$ for $N_f = 2$ ($N_f = 3$).	$\cdots$ for $N_f = 2$ ($N_f = 3$) at $m_q = 0$.
67	Eq.(4.49)	$\cdots\hat{O}_2(0)]$	$\cdots\hat{O}_2(0)]/Z$
67	Eq.(4.50)	$\cdots\hat{O}_2(0)]$	$\cdots\hat{O}_2(0)]/Z$
70	Eq.(4.64)	$4K_\mu K_\nu - 4K^2\delta_{\mu\nu}$	$4K_\mu K_\nu - 2K^2\delta_{\mu\nu}$
70	Eq.(4.65)	$8K_\mu K_\nu - 2K^2\delta_{\mu\nu}$	$8K_\mu K_\nu - 4K^2\delta_{\mu\nu}$
71	Eq.(4.69)	$(P_{\rm T})^2 = (P_{\rm L})^2 = 1,$	$(P_{\rm T})^2 = P_{\rm T},\ (P_{\rm L})^2 = P_{\rm L},$
76	1st line	$(N_c^2-1)/2N_c = 3/2$	$(N_c^2-1)/2N_c = 4/3$
78	1st line	crucial role is the gluon	crucial role in the gluon
85	10th line	and (4.136)	and (4.135)
96	19th line	$(\pi,0,0,0),(0,\pi,\pi,\pi),$	$(\pi,0,0,0),(\pi,\pi,0,0),(\pi,\pi,\pi,0)$
110	9th line	$V^{1/3} \gg T$	$V^{1/3} \gg T^{-1}$
110	23th line	Therefore, $\cdots$ small a.	[This must be removed.]
113	Eq.(5.79)	$\hat{\bar\psi}(\tau,\mathbf{x}) = \cdots$	$\hat{\bar\psi}(1/T,\mathbf{x}) = \cdots$
127	Eq.(6.20)	$\cdots\ln\left(\frac{4}{(G\sigma)^2}\right)+\cdots$	$\cdots\ln\left(\frac{4}{(G\sigma)^2\sqrt{\rm e}}\right)+\cdots$
147	25th line	$= [W[h]] =$	$= [\Omega[h]] =$
155	Table 6.2	$\varphi \sim \vert T-T_c\vert^{-\beta}$	$\varphi \sim \vert T-T_c\vert^{\beta}$
156	Eq.(6.148)	$\left.\frac{\partial\beta_l}{\partial\bar{b}_{l'}}\right\vert_{\bar{\boldsymbol{b}}=b^*}$	$\left.\frac{\partial\beta_l}{\partial\bar{b}_{l'}}\right\vert_{\bar{\boldsymbol{b}}=\boldsymbol{b}^*}$
156	10th line	the fixed point, b^*	the fixed point, $\boldsymbol{b}^*$
158	Eq.(6.157)	$\Phi_{ij} = \cdots$	$\Phi_{ij} \sim \cdots$
176	Fig.7.3	$r/\sqrt{K}$ (just below the horizontal axis)	$r\sqrt{K}$
199	4th line	and hence $z > 1$	and hence $z > 0$
202	8th line	on $E < 0$ ($K = -1$) or $E > 0$ ($K = +1$)	on $E < 0$ ($K = +1$) or $E > 0$ ($K = -1$)
209	Eq.(8.58)	$\cdots = 6\cdot\frac{1}{4}\frac{\zeta(3)}{\pi^2}T_{\nu0}^3 = \frac{3}{11}n_{\rm CMB},$	$\cdots = 6\cdot\frac{3}{4}\frac{\zeta(3)}{\pi^2}T_{\nu0}^3 = \frac{9}{11}n_{\rm CMB},$
212	Eq.(8.70)	$\cdots = d_{\rm QGP}\frac{\pi^2}{30}T^4 = \cdots$	$\cdots = d_{\rm H}\frac{\pi^2}{30}T^4 = \cdots$
213	Eq.(8.75)	78 μ s	50 μ s
214	Eq.(8.80)	18 μ s	11 μ s
214	Eq.(8.85)	17 μ s	11 μ s
226	1st line	constraint bound originating ...	constraint originating ...
226	8th line	$\sim 10^{9-10}$ g cm^3	$\sim 10^{9-10}$ g cm^{-3}
230	Eq.(9.45)	$k_{\rm e} = k_{\rm p} = \frac{m_{\rm n}}{2}\frac{(3\pi^2\rho_{\rm n}/m_{\rm n}^3)^{2/3}}{1+(3\pi^2\rho_{\rm n}/m_{\rm n}^3)^{1/3}}$	$k_{\rm e} = k_{\rm p} = \frac{m_{\rm n}}{2}\frac{(3\pi^2\rho_{\rm n}/m_{\rm n}^3)^{2/3}}{\sqrt{1+(3\pi^2\rho_{\rm n}/m_{\rm n}^3)^{2/3}}}$
235	Eq.(9.66)	$(x = \frac{\rho}{\rho_{\rm nm}} = x_{\rm n}+x_{\rm p},\ x_{\rm n} = \frac{\rho_{\rm n}}{\rho_{\rm nm}},\ x_{\rm p} = \frac{\rho_{\rm p}}{\rho_{\rm nm}})$	$(x = \frac{\rho}{\rho_{\rm nm}},\ x_{\rm n} = \frac{\rho_{\rm n}}{\rho},\ x_{\rm p} = \frac{\rho_{\rm p}}{\rho})$

Page#	Location	Wrong	Correct
237	Eq.(9.72)	$P(\mu) = -\Big[T\int \frac{d^3k}{(2\pi)^3}\cdots$	$P(\mu) = 6\Big[T\int \frac{d^3k}{(2\pi)^3}\cdots$
237	Eq.(9.73)	$= \int \frac{d^3k}{(2\pi)^3}\cdots$	$= 6\int \frac{d^3k}{(2\pi)^3}\cdots$
258	Eq.(10.9)	$N_{\rm part}(b) =$ $\int d^2\boldsymbol{s}\; T_A(\boldsymbol{s})\left(1 - {\rm e}^{-\sigma^{\rm in}_{\rm NN}T_B(\boldsymbol{s})}\right)\cdots$	$N_{\rm part}(b) =$ $\int d^2\boldsymbol{s}\; T_A(\boldsymbol{s})\left(1 - {\rm e}^{-\sigma^{\rm in}_{\rm NN}T_B(\boldsymbol{s}-\boldsymbol{b})}\right)\cdots$
266	4th line from below	$d\varepsilon = Tds + \mu_{\rm B}dn$ and $\varepsilon + P = Ts + \mu_{\rm B}n$	$d\varepsilon = Tds + \mu_{\rm B}dn_{\rm B}$ and $\varepsilon + P = Ts + \mu_{\rm B}n_{\rm B}$
267	Eq.(11.30)	$\cdots + (\epsilon + P)u^\mu\partial_\mu u_\rho = 0.$	$\cdots + (\varepsilon + P)u^\mu\partial_\mu u_\rho = 0.$
268	10th line	$j^0_{\rm B} \equiv n$	$j^0_{\rm B} \equiv n_{\rm B}$
268	Eq.(11.36)	$\Delta^\mu_\mu = 0$	$\Delta^\mu_\mu = 3$
275	11th line	$\cdots = dE/dy\|_{y=0}$	$\cdots = dE/dy\|_{y=0}$ (See Sec.17.2)
280 282 283	1st line 9th line 9th &12th lines	"Strosszahl Ansatz"	"Stosszahl Ansatz"
284	17th line	$F^{0i} = E^i$ and $2F_{ij} = \epsilon_{ijk}B^k$,	$F^{0i} = -E^i$ and $F_{ij} = -\epsilon_{ijk}B^k$ (see Eq.(2.7)),
284	Eq.(12.35)	$\cdots = -qF^{\mu\nu}(x)p_\nu,$	$\cdots = qF^{\mu\nu}(x)p_\nu,$
285	6th & 7th lines	transport equation $\cdots$,	transport equation for $\bar{F}^\mu(x,p) = 0$,
290	Eq.(12.67)	$= i\hbar q\left[\int_0^1 ds(1-s){\rm e}^{i(s-1/2)\hbar\Delta}\right]\cdots$	$= i\hbar q\left[\int_0^1 ds(1-s){\rm e}^{2i(s-1/2)\hbar\Delta}\right]\cdots$
293	Eq.(12.80)	$\cdots = \int \frac{d^3p}{(2\pi)^3}\cdots$	$\cdots = \int \frac{d^3p}{p^0}p^\mu\cdots$
294	Eq.(12.85)	$\cdots{\rm tr}[\gamma^\nu t^a W(x,p)]\cdots$	$\cdots{\rm tr}[\gamma^\mu t^a W(x,p)]\cdots$
300	4th line	Exercise 13.13.5	Exercise 13.2
307	Eq.(13.18)	$s(\tau) = s_{\rm H}(\tau)f(\tau) + \cdots$	$s(\tau) = s_{\rm H}f(\tau) + \cdots$
309	9th line	(Cooper and Frye,1974)	(Cooper and Frye, 1974, and Appendix G.3)
320	Eq.(14.9)	$\frac{dN_{\rm pair}}{d\Delta\phi} \propto \left(1 + \sum_{n=1}^{\infty} 2v_n^2\cos n\Delta\phi\right),$	$\frac{dN_{\rm pair}}{d\delta\phi} \propto \left(1 + \sum_{n=1}^{\infty} 2v_n^2\cos n\delta\phi\right),$
320	6th line	where $\Delta\phi = \phi_1 - \phi_2$.	where $\delta\phi = \phi_1 - \phi_2$.
331	10th line	Exercise 14.5(c)	Exercise 14.5(3)
399	Eq.(B.29)	$\lambda_5 = \begin{pmatrix} 0 & 0 & -i \\ i & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}$	$\lambda_5 = \begin{pmatrix} 0 & 0 & -i \\ 0 & 0 & 0 \\ i & 0 & 0 \end{pmatrix}$
404	6th and 7th lines from below	Riemann space	Lorentzian manifold
432	14th line	$\cdots$ **D67**, $\cdots$	$\cdots$ *Phys. Rev.* **D67**, $\cdots$
432	20th line	Asakawa, A.	Asakawa, M.
435	5th line from below	Kahrzeev. D., Lourenco, C. $\cdots$	Kajantie, K. and Kurki-Suonio, H. (1986). *Phys. Rev.* **D34**, 1719.
436	13th line	$\cdots$ *Quark-Gluon Plasma Z*,$\cdots$	$\cdots$ *Quark-Gluon Plasma 2*,$\cdots$
439	3th line	$\cdots$ *Vehling Summer School*,	$\cdots$ *Uehling Summer School*,
445	Index	"Strosszahl Ansatz"	"Stosszahl Ansatz"