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- Complement B_{XVI}, Eq. (51) should be:

$$e^{\beta\left[-E'_{N-1,\mathbf{K}'-\mathbf{k}}+\mu(N-1)+E_{N,\mathbf{K}}-\mu N\right]} = e^{\beta\left[E_{N,\mathbf{K}}-E'_{N-1,\mathbf{K}'-\mathbf{k}}-\mu\right]} \tag{51}$$

- Chapter XVII, Eq. (C-38) should be:

$$[\Delta N]^2 = 2\sum_{\mathbf{k}} [\Delta n_{\mathbf{k}}]^2 = 2\sum_{\mathbf{k}} \sinh^2\theta_{\mathbf{k}} \cosh^2\theta_{\mathbf{k}}$$

- Complement B_{XVII}, Eq. (22) should have one less factor 2:

$$\begin{aligned} \langle H_0 \rangle &= \sum_{\mathbf{k}} e_k \ \langle \overline{\varphi}_{\mathbf{k}} | \,\widehat{n}_{(\text{paire } \mathbf{k})} \,| \overline{\varphi}_{\mathbf{k}} \rangle = 2\sum_{\mathbf{k}} e_k \ |v\,(\mathbf{k})|^2 \\ &= 2\sum_{\mathbf{k}} e_k \ \sin^2\theta_{\mathbf{k}} \end{aligned} \tag{22}$$

- Complement C_{XVII}, Eq. (65) should be:

$$F\,(\mathbf{r}) = \frac{2}{\langle N \rangle} \sum_{\mathbf{k}} e^{i\mathbf{k}\cdot\mathbf{r}} \,|v_{\mathbf{k}}|^2 \tag{65}$$

- Complement E_{XVII}, the second line of Eq. (66) should have k” instead of k:

$$\begin{aligned} &-\frac{N_0}{L^6}\left\{ \sum_{\mathbf{k}\neq\mathbf{0}} e^{i\mathbf{k}\cdot(\mathbf{r}'-\mathbf{r})} \text{sh}\theta_{\mathbf{k}} \ \text{ch}\theta_{\mathbf{k}} e^{2i(\zeta_0-\zeta_{\mathbf{k}})} \right. \\ &\qquad \left. + \sum_{\mathbf{k}''\neq\mathbf{0}} e^{i\mathbf{k}''\cdot(\mathbf{r}'-\mathbf{r})} \text{sh}\theta_{\mathbf{k}''} \ \text{ch}\theta_{\mathbf{k}''} e^{-2i(\zeta_0-\zeta_{\mathbf{k}''})} \right\} \\ &\qquad = -\frac{2N_0}{L^6} \sum_{\mathbf{k}\neq\mathbf{0}} \text{sh}\theta_{\mathbf{k}} \ \text{ch}\theta_{\mathbf{k}} \ \cos\left[\mathbf{k}\cdot(\mathbf{r}'-\mathbf{r}) + 2\,(\zeta_0-\zeta_{\mathbf{k}})\right] \end{aligned} \tag{66}$$

- From Chapter XVIII, the discussion should be generalized to include complex (circular or elliptical) polarizations, which are used in various examples of Chapter XX. Eqs (B-28) to (B-30) of Chapter XVIII should be modified, and the second term in the right hand side of these equations should contain complex polarizations:

$$\boldsymbol{A}_\perp(\boldsymbol{r},t) = \frac{1}{(2\pi)^{3/2}} \int \mathrm{d}^3k \, \sum_{\boldsymbol{\varepsilon}} \frac{1}{2\mathcal{N}(k)} \left[\alpha_{\boldsymbol{\varepsilon}}(\boldsymbol{k},t)\,\boldsymbol{\varepsilon}\; e^{i\boldsymbol{k}\cdot\boldsymbol{r}} + \alpha^*_{\boldsymbol{\varepsilon}}(\boldsymbol{k},t)\,\boldsymbol{\varepsilon}^*\; e^{-i\boldsymbol{k}\cdot\boldsymbol{r}}\right]$$

Similar calculations can be carried out for the transverse electric field as well as for the magnetic field. They yield:

$$\boldsymbol{E}_{\perp}(\boldsymbol{r},t)=\frac{1}{(2\pi)^{3/2}}\int \mathrm{d}^3k\;\sum_{\boldsymbol{\varepsilon}}\frac{i\omega}{2\mathcal{N}(k)}\left[\alpha_{\boldsymbol{\varepsilon}}(\boldsymbol{k},t)\,\boldsymbol{\varepsilon}\;e^{i\boldsymbol{k}\cdot\boldsymbol{r}}-\alpha^*_{\boldsymbol{\varepsilon}}(\boldsymbol{k},t)\,\boldsymbol{\varepsilon}^*\;e^{-i\boldsymbol{k}\cdot\boldsymbol{r}}\right]$$

$$\boldsymbol{B}(\boldsymbol{r},t)=\frac{1}{(2\pi)^{3/2}}\int \mathrm{d}^3k\;\sum_{\boldsymbol{\varepsilon}}\frac{ik}{2\mathcal{N}(k)}\left[\alpha_{\boldsymbol{\varepsilon}}(\boldsymbol{k},t)\,\boldsymbol{\kappa}\times\boldsymbol{\varepsilon}\;e^{i\boldsymbol{k}\cdot\boldsymbol{r}}-\alpha^*_{\boldsymbol{\varepsilon}}(\boldsymbol{k},t)\,\boldsymbol{\kappa}\times\boldsymbol{\varepsilon}^*\;e^{-i\boldsymbol{k}\cdot\boldsymbol{r}}\right]$$

- In Complement $\mathrm{A}_{\mathrm{XVIII}}$, Eq. (75) should be:

$$L_P=\sum_a\frac{1}{2}m_a\left[\dot{\boldsymbol{r}}_a(t)\right]^2-V_{\mathrm{Coul}}\tag{75}$$

- In Chapter XIX, and as above, in the right hand side of relations (A-7) to (A-9), the second terms should contain complex conjugate of the polarizations:

$$\hat{\boldsymbol{E}}_{\perp}(\boldsymbol{r})=i\int\frac{\mathrm{d}^3k}{(2\pi)^{3/2}}\;\sum_{\boldsymbol{\varepsilon}}\left[\frac{\hbar\omega}{2\varepsilon_0}\right]^{1/2}\left[\hat{a}_{\boldsymbol{\varepsilon}}(\boldsymbol{k})\;\boldsymbol{\varepsilon}\;e^{i\boldsymbol{k}\cdot\boldsymbol{r}}-\hat{a}^{\dagger}_{\boldsymbol{\varepsilon}}(\boldsymbol{k})\;\boldsymbol{\varepsilon}^*\;e^{-i\boldsymbol{k}\cdot\boldsymbol{r}}\right]$$

$$\hat{\boldsymbol{B}}(\boldsymbol{r})=\frac{i}{c}\int\frac{\mathrm{d}^3k}{(2\pi)^{3/2}}\;\sum_{\boldsymbol{\varepsilon}}\left[\frac{\hbar\omega}{2\varepsilon_0}\right]^{1/2}\left[\hat{a}_{\boldsymbol{\varepsilon}}(\boldsymbol{k})\;\boldsymbol{\kappa}\times\boldsymbol{\varepsilon}\;e^{i\boldsymbol{k}\cdot\boldsymbol{r}}-\hat{a}^{\dagger}_{\boldsymbol{\varepsilon}}(\boldsymbol{k})\;\boldsymbol{\kappa}\times\boldsymbol{\varepsilon}^*\;e^{-i\boldsymbol{k}\cdot\boldsymbol{r}}\right]$$

$$\hat{\boldsymbol{A}}_{\perp}(\boldsymbol{r})=\int\frac{\mathrm{d}^3k}{(2\pi)^{3/2}}\;\sum_{\boldsymbol{\varepsilon}}\left[\frac{\hbar}{2\varepsilon_0\omega}\right]^{1/2}\left[\hat{a}_{\boldsymbol{\varepsilon}}(\boldsymbol{k})\;\boldsymbol{\varepsilon}\;e^{i\boldsymbol{k}\cdot\boldsymbol{r}}+\hat{a}^{\dagger}_{\boldsymbol{\varepsilon}}(\boldsymbol{k})\;\boldsymbol{\varepsilon}^*\;e^{-i\boldsymbol{k}\cdot\boldsymbol{r}}\right]$$

- Similarly, a complex conjugate of the polarization should appear in (A-15):

$$\hat{\boldsymbol{E}}_{\perp}(\boldsymbol{r})=i\sum_{\boldsymbol{k},\boldsymbol{\varepsilon}}\left[\frac{\hbar\omega}{2\varepsilon_0L^3}\right]^{1/2}\left[\hat{a}_{\boldsymbol{k},\boldsymbol{\varepsilon}}\;\boldsymbol{\varepsilon}\;e^{i\boldsymbol{k}\cdot\boldsymbol{r}}-\hat{a}^{\dagger}_{\boldsymbol{k},\boldsymbol{\varepsilon}}\;\boldsymbol{\varepsilon}^*\;e^{-i\boldsymbol{k}\cdot\boldsymbol{r}}\right]$$

- Similar corrections in (B-3) to (B-5):

$$\begin{aligned}\hat{\boldsymbol{E}}_{\perp}(\boldsymbol{r},t)&=i\sum_i\left(\frac{\hbar\omega_i}{2\epsilon_0L^3}\right)^{1/2}\left[\hat{a}_i\boldsymbol{\varepsilon}_ie^{i(\boldsymbol{k}_i\cdot\boldsymbol{r}-\omega_it)}-\hat{a}^{\dagger}_i\boldsymbol{\varepsilon}^*_ie^{-i(\boldsymbol{k}_i\cdot\boldsymbol{r}-\omega_it)}\right]\\ \hat{\boldsymbol{B}}(\boldsymbol{r},t)&=i\sum_i\left(\frac{\hbar k_i}{2\epsilon_0cL^3}\right)^{1/2}\left[\hat{a}_i\boldsymbol{\kappa}_i\times\boldsymbol{\varepsilon}_ie^{i(\boldsymbol{k}_i\cdot\boldsymbol{r}-\omega_it)}-\hat{a}^{\dagger}_i\boldsymbol{\kappa}_i\times\boldsymbol{\varepsilon}^*_ie^{-i(\boldsymbol{k}_i\cdot\boldsymbol{r}-\omega_it)}\right]\\ \hat{\boldsymbol{A}}_{\perp}(\boldsymbol{r},t)&=\sum_i\left(\frac{\hbar}{2\epsilon_0\omega_iL^3}\right)^{1/2}\left[\hat{a}_i\boldsymbol{\varepsilon}_ie^{i(\boldsymbol{k}_i\cdot\boldsymbol{r}-\omega_it)}+\hat{a}^{\dagger}_i\boldsymbol{\varepsilon}^*_ie^{-i(\boldsymbol{k}_i\cdot\boldsymbol{r}-\omega_it)}\right]\end{aligned}\tag{76}$$

- Similar correction in Eqs. (C-30), (C-32) and (C-35):

$$\sum_i \hbar\omega_i \left(\lambda_i \hat{a}_i^\dagger + \lambda_i^* \hat{a}_i\right) = -\sum_i i\sqrt{\frac{\hbar\omega_i}{2\epsilon_0 L^3}} \left(\hat{a}_i \boldsymbol{\varepsilon}_i e^{i\boldsymbol{k}_i\cdot\hat{\boldsymbol{R}}} - \hat{a}_i^\dagger \boldsymbol{\varepsilon}_i^* e^{-i\boldsymbol{k}_i\cdot\hat{\boldsymbol{R}}}\right)\cdot\hat{\boldsymbol{D}}$$

$$= -\hat{\boldsymbol{E}}_\perp(\hat{\boldsymbol{R}})\cdot\hat{\boldsymbol{D}}$$

$$\hat{h}_{\text{dip}} = \sum_i \hbar\omega_i \lambda_i^* \lambda_i = \sum_i \frac{1}{2\varepsilon_0 L^3} (\boldsymbol{\varepsilon}_i\cdot\hat{\boldsymbol{D}})(\boldsymbol{\varepsilon}_i^*\cdot\hat{\boldsymbol{D}})$$

$$-i\sqrt{\frac{\hbar\omega_i}{2\varepsilon_0 L^3}} \left\langle\psi_{\text{fin}}^{\text{int}}\right| \boldsymbol{\varepsilon}_i^*\cdot\hat{\boldsymbol{D}} \left|\psi_{\text{in}}^{\text{int}}\right\rangle \left\langle\psi_{\text{fin}}^{\text{ext}}\right| \exp(-i\,\boldsymbol{k}_i\cdot\hat{\boldsymbol{R}}\,) \left|\psi_{\text{in}}^{\text{ext}}\right\rangle \left\langle\psi_{\text{fin}}^{R}\right| \hat{a}_i^\dagger \left|\psi_{\text{in}}^{R}\right\rangle$$

- Complement A_{XIX}, second paragraph of § 1-c, an index zero is missing after omega: $\omega_0 + \omega_R$ and $\omega_0 - \omega_R$.

- Chapter XX, the second line of equation (A-27) should be generalized to include complex polarizations:

$$\boldsymbol{E}_\perp^{(+)}(\boldsymbol{R}) = i\sum_i \left(\frac{\hbar\omega_i}{2\epsilon_0 L^3}\right)^{1/2} a_i \boldsymbol{\varepsilon}_i e^{i\boldsymbol{k}_i\cdot\boldsymbol{R}}$$

$$\boldsymbol{E}_\perp^{(-)}(\boldsymbol{R}) = -i\sum_i \left(\frac{\hbar\omega_i}{2\epsilon_0 L^3}\right)^{1/2} a_i^\dagger \boldsymbol{\varepsilon}_i^* e^{-i\boldsymbol{k}_i\cdot\boldsymbol{R}} = \left[\boldsymbol{E}_\perp^{(+)}(\boldsymbol{R})\right]^\dagger$$

and similarly the second line of equation (A-29):

$$\bar{\boldsymbol{E}}_\perp^{(+)}(\boldsymbol{R},t) = i\sum_i \left(\frac{\hbar\omega_i}{2\epsilon_0 L^3}\right)^{1/2} a_i \boldsymbol{\varepsilon}_i e^{i(\boldsymbol{k}_i\cdot\boldsymbol{R}-\omega_i t)}$$

$$\bar{\boldsymbol{E}}_\perp^{(-)}(\boldsymbol{R},t) = -i\sum_i \left(\frac{\hbar\omega_i}{2\epsilon_0 L^3}\right)^{1/2} a_i^\dagger \boldsymbol{\varepsilon}_i^* e^{-i(\boldsymbol{k}_i\cdot\boldsymbol{R}-\omega_i t)} = \left[\bar{\boldsymbol{E}}_\perp^{(+)}(\boldsymbol{R},t)\right]^\dagger$$

- In Eq. (E-15), in the second line the index of summation should be c instead of a:

$$A_{fi}^{\beta}(E_{\text{in}}) = \sum_{|\psi_{\text{rel}}^{\beta}\rangle} \frac{\langle\psi_{\text{fin}}|\boldsymbol{D}\cdot\boldsymbol{E}^{(+)}|\psi_{\text{rel}}^{\beta}\rangle\langle\psi_{\text{rel}}^{\beta}|\boldsymbol{D}\cdot\boldsymbol{E}^{(-)}|\psi_{\text{in}}\rangle}{E_{\text{in}} - E_{\text{rel}}^{\beta}}$$

$$= \frac{\hbar\sqrt{\omega_i\omega_f}}{2\epsilon_0 L^3} \sum_c \frac{\langle a'|\boldsymbol{\varepsilon}_i\cdot\boldsymbol{D}|c\rangle\langle c|\boldsymbol{\varepsilon}_f^*\cdot\boldsymbol{D}|a\rangle}{E_a - \hbar\omega_f - E_c}$$

- Complement E_{XX}, the sum over c can be suppressed from Eq. (42):

$$A_{fi}^{\alpha}(E_{\text{in}}) = -\frac{\hbar\sqrt{\omega_i\omega_f}}{2\varepsilon_0 L^3} \frac{\langle a|\boldsymbol{\varepsilon}_f^*\cdot\boldsymbol{D}|c\rangle\langle c|\boldsymbol{\varepsilon}_i\cdot\boldsymbol{D}|a\rangle}{E_a + \hbar\omega_i - E_c}\; e^{i(\boldsymbol{k}_i-\boldsymbol{k}_f)\cdot\boldsymbol{r}_A}$$

- Appendix IV, Eq. (37) should be:

$$\begin{aligned} \langle \mathbf{r}''| \, U\left(t'', t\right) |\mathbf{r}\rangle &= \sum_{\text{paths } \Gamma_1} \exp\left[\frac{iS_{\Gamma_1}}{\hbar}\right] \\ \langle \mathbf{r}'| \, U\left(t', t''\right) |\mathbf{r}''\rangle &= \sum_{\text{paths } \Gamma_2} \exp\left[\frac{iS_{\Gamma_2}}{\hbar}\right] \end{aligned} \tag{37}$$