The full equations without G-s:

The P-s:

$$\begin{aligned}\frac{\mathrm{d}}{\mathrm{d}t}P_e^u = &+\delta P_e^v P_e^w + \frac{1}{N}\tau\sum_f \left(P_e^v P_f^w + P_f^v P_e^w + P_f^u E_e\right) + \left\{\sigma + \frac{N-n}{N}\tau\right\}\left(\bar{P}^v P_e^w + P_e^v \bar{P}^w + \bar{P}^u E_e\right)\\ &-\delta(1-2E_e)P_e^u - \frac{1}{N}\tau\sum_f (1-E_f)P_e^u - \left\{\sigma + \frac{N-n}{N}\tau\right\}(1-\bar{E})P_e^u - \lambda P_e^u; \end{aligned} \tag{PE}$$

$$\begin{aligned}\frac{\mathrm{d}}{\mathrm{d}t}\bar{P}^u = &+\left\{2\sigma + \delta + 2\frac{N-n}{N}\tau\right\}\bar{P}^v\bar{P}^w + \frac{1}{N}\tau\sum_e\left(\bar{P}^v P_e^w + P_e^v\bar{P}^w + \bar{E}P_e^u\right).\\ &-\left\{\sigma + \delta + \frac{N-n}{N}\tau\right\}(1-2\bar{E})\bar{P}^u - \frac{1}{N}\tau\sum_f(1-E_f)\bar{P}^u - \left\{\frac{N}{N-n}\sigma + \lambda\right\}\bar{P}^u \end{aligned} \tag{PB}$$

The E-s:

$$\begin{aligned}\frac{\mathrm{d}}{\mathrm{d}t}E_e = &+\lambda(1-E_e) - \delta(1-E_e)E_e - \frac{1}{N}\tau\sum_f(1-E_f)E_e\\ &-\left\{\sigma + \frac{N-n}{N}\tau\right\}(1-\bar{E})E_e; \end{aligned} \tag{EE}$$

$$\begin{aligned}\frac{\mathrm{d}}{\mathrm{d}t}\bar{E} = &+\left\{\frac{N}{N-n}\sigma + \lambda\right\}(1-\bar{E}) - \left\{\sigma + \delta + \frac{N-n}{N}\tau\right\}(1-\bar{E})\bar{E}\\ &-\frac{1}{N}\tau\sum_f(1-E_f)\bar{E}. \end{aligned} \tag{EB}$$

If we gather terms the way Nicolas like them:

The P-s:

$$
\begin{aligned}
\frac{\mathrm{d}}{\mathrm{d}t}P_e^u =&+\delta P_e^v P_e^w + \frac{1}{N}\tau\sum_f \left(P_e^v P_f^w + P_f^v P_e^w\right) + \left\{\sigma + \frac{N-n}{N}\tau\right\}\left(\bar{P}^v P_e^w + P_e^v \bar{P}^w\right)\\
&+2\delta P_e^u E_e + \frac{1}{N}\tau\sum_f \left(P_f^u E_e + E_f P_e^u\right) + \left\{\sigma + \frac{N-n}{N}\tau\right\}\left(\bar{P}^u E_e + \bar{E} P_e^u\right)\\
&-(\delta+\sigma+\tau+\lambda)P_e^u; \qquad \text{(PE)}\\
\frac{\mathrm{d}}{\mathrm{d}t}\bar{P}^u =&+\left\{2\sigma + \delta + 2\frac{N-n}{N}\tau\right\}\bar{P}^v\bar{P}^w + \frac{1}{N}\tau\sum_e\left(P_e^w\bar{P}^v + P_e^v\bar{P}^w\right)\\
&+\left\{2\sigma + 2\delta + 2\frac{N-n}{N}\tau\right\}\bar{P}^v\bar{E} + \frac{1}{N}\tau\sum_e\left(P_e^u\bar{E} + E_e\bar{P}^u\right)\\
&-\left\{\sigma+\delta+\tau+\frac{N}{N-n}\sigma+\lambda\right\}\bar{P}^u \qquad \text{(PB)}
\end{aligned}
$$

The E-s:

$$
\begin{aligned}
\frac{\mathrm{d}}{\mathrm{d}t}E_e =&+\delta E_e^2 + \frac{1}{N}\tau\sum_f E_f E_e + \left\{\sigma + \frac{N-n}{N}\tau\right\}\bar{E}E_e\\
&-\{\delta+\tau+\sigma+\lambda\}E_e + \lambda; \qquad \text{(EE)}\\
\frac{\mathrm{d}}{\mathrm{d}t}\bar{E} =&\left\{\sigma+\delta+\frac{N-n}{N}\tau\right\}\bar{E}^2 + \frac{1}{N}\tau\sum_f E_f\bar{E}\\
&-\left\{\sigma+\delta+\tau+\frac{N}{N-n}\sigma+\lambda\right\}\bar{E} + \left\{\frac{N}{N-n}\sigma+\lambda\right\} \qquad \text{(EB)}
\end{aligned}
$$

Now $\hat{\sigma} = \sigma/N$, $\bar{P}^u = \frac{1}{N}\hat{P}^u$ and $\bar{E} = 1 - \frac{\hat{H}}{N}$:

The P-s:

$$\begin{aligned}
\frac{\mathrm{d}}{\mathrm{d}t}P_e^u = &+ \delta P_e^v P_e^w + \frac{1}{N}\tau \sum_f \left(P_e^v P_f^w + P_f^v P_e^w\right) + \left\{N\hat{\sigma} + \frac{N-n}{N}\tau\right\}\left(\frac{1}{N}\hat{P}^v P_e^w + P_e^v \frac{1}{N}\hat{P}^w\right) \\
&+ 2\delta P_e^u E_e + \frac{1}{N}\tau \sum_f \left(P_f^u E_e + E_f P_e^u\right) + \left\{N\hat{\sigma} + \frac{N-n}{N}\tau\right\}\left(\frac{1}{N}\hat{P}^u E_e + (1 - \frac{\hat{H}}{N})P_e^u\right) \\
&- (\delta + N\hat{\sigma} + \tau + \lambda)P_e^u; \qquad \text{(PE)}
\end{aligned}$$

$$\begin{aligned}
\frac{\mathrm{d}}{\mathrm{d}t}\frac{1}{N}\hat{P}^u = &+ \left\{2N\hat{\sigma} + \delta + 2\frac{N-n}{N}\tau\right\}\frac{1}{N}\hat{P}^v \frac{1}{N}\hat{P}^w + \frac{1}{N}\tau \sum_e \left(P_e^w \frac{1}{N}\hat{P}^v + P_e^v \frac{1}{N}\hat{P}^w\right) \\
&+ \left\{2N\hat{\sigma} + 2\delta + 2\frac{N-n}{N}\tau\right\}\frac{1}{N}\hat{P}^v(1 - \frac{\hat{H}}{N}) + \frac{1}{N}\tau \sum_e \left(P_e^u(1 - \frac{\hat{H}}{N}) + E_e \frac{1}{N}\hat{P}^u\right) \\
&- \left\{N\hat{\sigma} + \delta + \tau + \frac{N}{N-n}N\hat{\sigma} + \lambda\right\}\frac{1}{N}\hat{P}^u \qquad \text{(PB)}
\end{aligned}$$

The E-s:

$$\begin{aligned}
\frac{\mathrm{d}}{\mathrm{d}t}E_e = &+ \delta E_e^2 + \frac{1}{N}\tau \sum_f E_f E_e + \left\{N\hat{\sigma} + \frac{N-n}{N}\tau\right\}(1 - \frac{\hat{H}}{N})E_e \\
&- \{\delta + \tau + N\hat{\sigma} + \lambda\}E_e + \lambda; \qquad \text{(EE)}
\end{aligned}$$

$$\begin{aligned}
-\frac{\mathrm{d}}{\mathrm{d}t}\frac{\hat{H}}{N} = &\left\{N\hat{\sigma} + \delta + \frac{N-n}{N}\tau\right\}\left(1 - \frac{\hat{H}}{N}\right)^2 + \frac{1}{N}\tau \sum_f E_f(1 - \frac{\hat{H}}{N}) \\
&- \left\{N\hat{\sigma} + \delta + \tau + \frac{N}{N-n}N\hat{\sigma} + \lambda\right\}(1 - \frac{\hat{H}}{N}) + \left\{\frac{N}{N-n}N\hat{\sigma} + \lambda\right\} \qquad \text{(EB)}
\end{aligned}$$

After $N \to \infty$:

The P-s:

$$\begin{aligned}
\frac{\mathrm{d}}{\mathrm{d}t} P_e^u = &+ \delta P_e^v P_e^w + \hat{\sigma} \left(\hat{P}^v P_e^w + P_e^v \hat{P}^w \right) \\
&+ 2\delta P_e^u E_e + \hat{\sigma} \left(\hat{P}^u E_e - \hat{H} P_e^u \right) \\
&- \{\delta + \lambda\} P_e^u;
\end{aligned} \tag{PE}$$

$$\begin{aligned}
\frac{\mathrm{d}}{\mathrm{d}t} \hat{P}^u = &+ 2\hat{\sigma} \hat{P}^v P^w \\
&- 2\hat{\sigma} \hat{P}^u \hat{H} + \tau \sum_e P_e^u \\
&- \{n\hat{\sigma} + \lambda - \delta - \tau\} \hat{P}^u
\end{aligned} \tag{PB}$$

The E-s:

$$\begin{aligned}
\frac{\mathrm{d}}{\mathrm{d}t} E_e = &+ \delta E_e^2 - \hat{\sigma} \hat{H} E_e \\
&- \{\delta + \lambda\} E_e + \lambda;
\end{aligned} \tag{EE}$$

$$\begin{aligned}
\frac{\mathrm{d}}{\mathrm{d}t} \hat{H} = &- \hat{\sigma} \hat{H}^2 + \tau \sum_f (1 - E_f) \\
&- \{n\hat{\sigma} + \lambda - \delta - \tau\} \hat{H}
\end{aligned} \tag{EB}$$

Organized for implimentation:

The P-s:

$$\frac{\mathrm{d}}{\mathrm{d}t}P_e^u = +\,\delta P_e^v P_e^w + \hat{\sigma}\left(\hat{P}^v P_e^w + P_e^v \hat{P}^w\right) + \hat{\sigma}\hat{P}^u E_e + \left(2\delta E_e - \hat{\sigma}\hat{H} - \delta - \lambda\right) P_e^u \tag{PE}$$

$$\frac{\mathrm{d}}{\mathrm{d}t}\hat{P}^u = +\,2\hat{\sigma}\hat{P}^v P^w + \tau\sum_e P_e^u + \left(\delta + \tau - \lambda - n\hat{\sigma} - 2\hat{\sigma}\hat{H}\right)\hat{P}^u \tag{PB}$$

The E-s:

$$\frac{\mathrm{d}}{\mathrm{d}t}E_e = +\,\delta E_e^2 + \left\{-\hat{\sigma}\hat{H} - \delta - \lambda\right\} E_e + \lambda; \tag{EE}$$

$$\frac{\mathrm{d}}{\mathrm{d}t}\hat{H} = -\,\hat{\sigma}\hat{H}^2 + \{\delta + \tau - \lambda - n\hat{\sigma}\}\,\hat{H} + \tau\sum_f (1 - E_f) \tag{EB}$$