Due to an error in the production process, $\Gamma$ was changed to $G_{cy}$ in equation (1). The correct equation should read:

\[
\begin{align*}
\frac{dn_+}{dr} &= P - \Gamma_x n_+ - R_x |\psi_+|^2 n_+ - R_o |\psi_o|^2 n_+,
\frac{dn_-}{dr} &= P - \Gamma_x n_- - R_x |\psi_-|^2 n_- - R_o |\psi_o|^2 n_-,
\frac{d\psi_+}{dr} &= \left[ \frac{1}{2} (R_x n_+ + R_o n_- - \Gamma_p) - \frac{i}{2} (\alpha_1 |\psi_+|^2 + \alpha_2 |\psi_-|^2) \right] \psi_+ - \frac{1}{2} (\gamma - i \varepsilon) \psi_- \\
&+ \sqrt{R_x n_+ + R_o n_-} \frac{dW_+}{dr}, \\
\frac{d\psi_-}{dr} &= \left[ \frac{1}{2} (R_x n_- + R_o n_+ - \Gamma_p) - \frac{i}{2} (\alpha_1 |\psi_-|^2 + \alpha_2 |\psi_+|^2) \right] \psi_- - \frac{1}{2} (\gamma - i \varepsilon) \psi_+ \\
&+ \sqrt{R_x n_- + R_o n_+} \frac{dW_-}{dr}.
\end{align*}
\]