解くべき方程式

$$\frac{i\hbar}{\alpha}\lim_{\varepsilon\to 0}\frac{\Phi[\chi(\square-\varepsilon)]-\Phi[\chi]}{\varepsilon}$$

$$=\int_0^T dt\,\frac{1}{2m}\left[\frac{-i\hbar}{\alpha}\cdot\frac{\delta}{\delta\chi(t)}\right]^2\Phi[\chi]$$

ただし $[\chi(\square-\varepsilon)](t)\equiv\begin{cases}\chi(t-\varepsilon) & \varepsilon\leqq t\leqq T\\ \chi(t-\varepsilon+T) & 0\leqq t\leqq\varepsilon\end{cases}$

得られた解

$$\Phi[\chi]=\int_0^\infty dr\int_0^{2\pi}d\theta\cdot f(r)\exp\Big(-\frac{i\hbar}{2n\pi\alpha m}r^2\theta$$
$$+ira_n[\chi]\cos\theta+irb_n[\chi]\sin\theta\Big)$$

ただし　$f(r)=\sum_{k=0}^{\infty}c_k\,\delta(r-\sqrt{2n\pi\alpha mk/\hbar})$

$$a_n[\chi]\equiv\frac{2}{T}\int_0^T dt\,\chi(t)\cos\left(\frac{2n\pi}{T}t\right)$$

$$b_n[\chi]\equiv\frac{2}{T}\int_0^T dt\,\chi(t)\sin\left(\frac{2n\pi}{T}t\right)$$