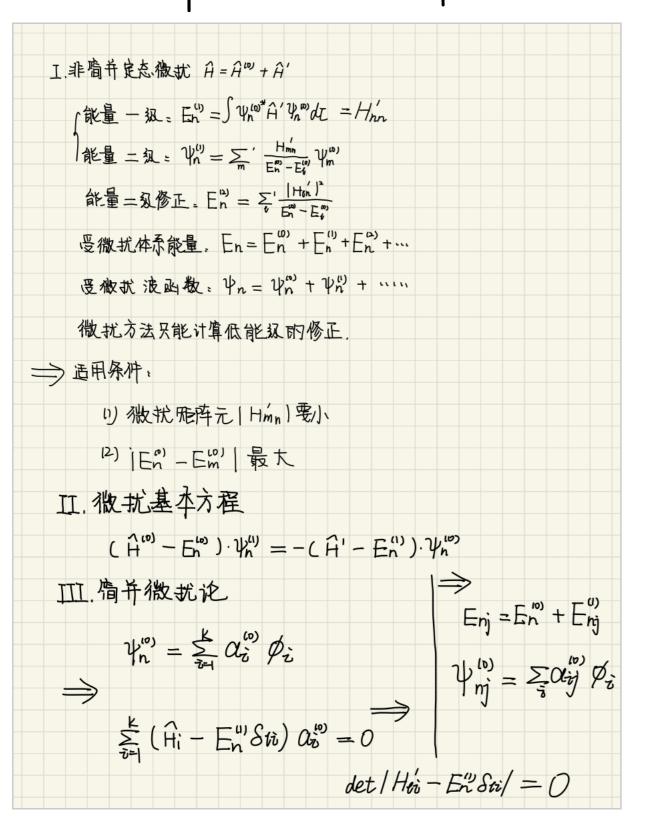
第四章

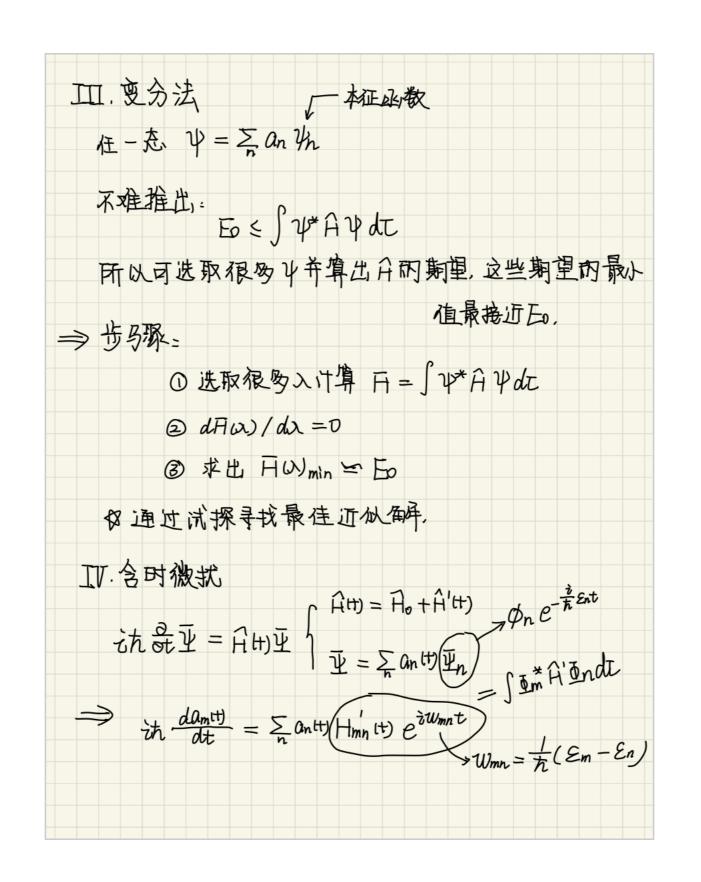
$ \underline{\underline{\underline{\underline{x}}}} $
若力学量 O 本征函数 $DU(x)$, $U(x)$, \dots , $U_n(x)$ 本征値: $O(x,t) = \sum_{n} Q_n(t) U_n(x)$ $Q_n(t) = \int_{0}^{\infty} U_n^*(x) \Psi(x,t) dx$ $Q_n(t) = \int_{0}^{\infty} U_n^*(x) \Psi(x,t) dx$
an 2是正(x,t) 中测量Q所得 南结果为 Qn 的概率.
$2.$ 年的矩阵表示 $\Rightarrow \underline{\Phi}(x,t) = \overline{h}bm(t) Umlt)$ $ + \overline{h} = \underline{\Psi}(x,t) = \underline{\Phi}(x,t) $ $ + \underline{\Psi}(x,t) = \underline{h} = \underline{\mu}$ $ + \underline{\Psi}(x,t) = \underline{h} = \underline{\mu}$ $ + \underline{\Psi}(x,t) = \underline{h} = \underline{\mu}$
$\Rightarrow \frac{1}{\int bn(t) = \sum_{m} F_{nm} \Omega_{m}(t)}$ $F_{nm} = \int u_{n}^{*}(x) F(x, -\frac{i \pi}{2}) U_{n}(x) dx = \langle U_{n}/F/U_{m}\rangle$
Thm = Un (X) - (X, - *** ②X) Um (X)

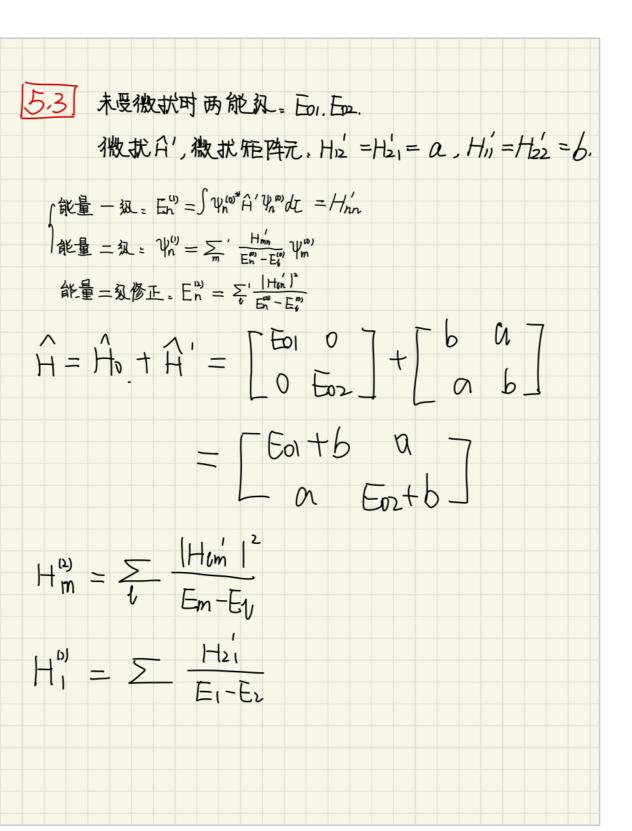
4. 幺正更换(一个表象到另一个表象) 「You)= SSpKi
之正变换。 广产在B下广产在A表表中 Sms-J4x*·4g dx
$=$ $\xi \xi b = S^{\dagger} \alpha$
$ \begin{array}{c c} & C \\ & b_1 \\ & b_2 \\ & b_n \end{array} $ $ \begin{array}{c c} & \alpha_1(t) \\ & \alpha_2(t) \\ & \alpha_n(t) \end{array} $
一一不改变矩阵的迹、发本征值
₽
一己而公和及由共同表象中,算府公和公的矩阵分别为
→ 求它们内本征值和但一化被函数,最后将 Lx、Li对角化

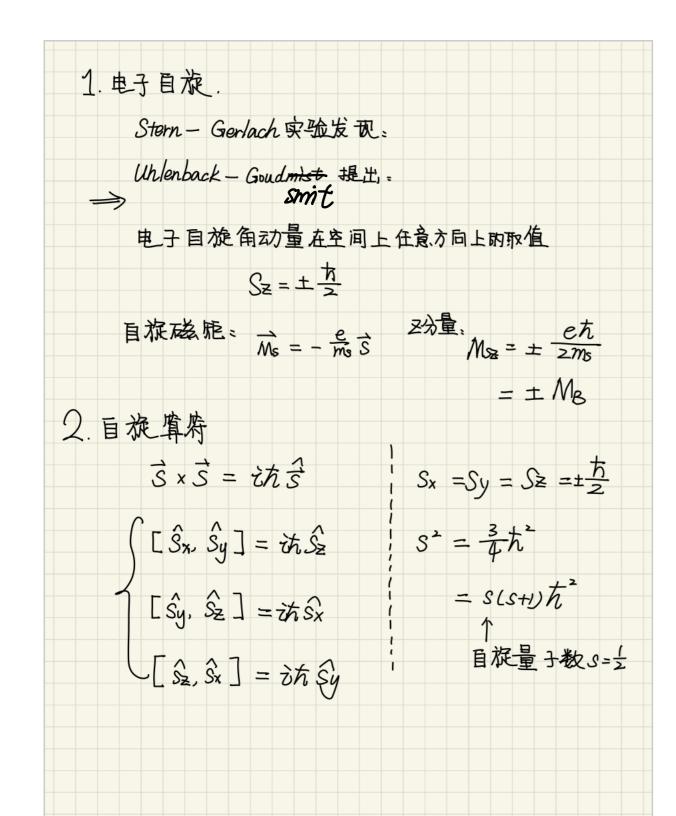
5. Drac符号
$\langle \psi \psi \rangle = \int \psi^* \psi d\tau$
$f(n) = f_n/n > \langle n/n' \rangle = \delta_{nn'}$
$ \psi\rangle = \sum \alpha_n pn\rangle$, $\alpha_n = \langle n/\psi\rangle$
_ ⇒ n> <n td="" 为投影填序<=""></n >
$\frac{ n\rangle\langle n \psi\rangle = n\rangle\langle n = a_n n\rangle}{ n\rangle\langle n \psi\rangle}$
211一化条件
$-\left \frac{\sum_{n} (n > \langle n = $
$ \psi\rangle = \begin{pmatrix} \alpha_1 \\ \vdots \\ \alpha_n \\ \vdots \end{pmatrix} \qquad \langle \psi = (\alpha_1^*, \alpha_2^* \cdots \alpha_n^* \cdots)$
6. [â, â+]=
[& n > = Nn n - 1 >
$\int \hat{\alpha}^{\dagger} n \rangle = \sqrt{n+1} n+1 \rangle$
$\hat{A} = \hbar w(\hat{\lambda} + \frac{1}{2}) = \hbar w(\hat{a}^{\dagger} \hat{a} + \frac{1}{2})$
$\hat{N} n\rangle = n n\rangle$

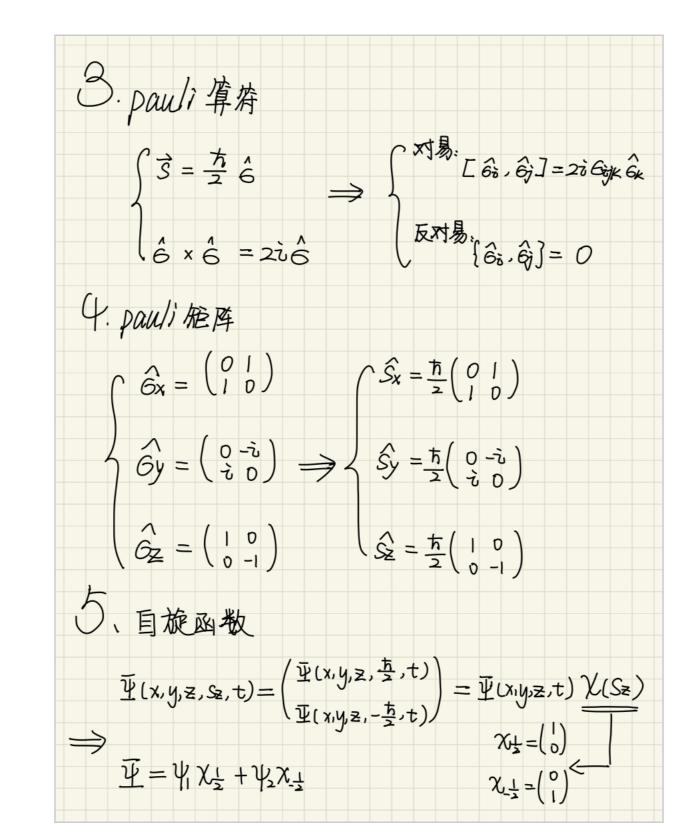
第五章十第七章











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⇒ W= 里 + 里 = (Ψ*, Ψ²) (Ψ) (Ψ²)

○、全同粮子: 质量、电荷、目旋等固有性质臭全相同耐粒子
全同性原理: 两全同粒子相互代换不引起物理状态。
改变.

交换及对称液函数

重[q₁, …, q², …, q²
```